Rural Water Supply and Sanitation Project in Western Nepal Phase II

2015

Cooperative as an Option for WUSCs' Operation and Maintenance Fund

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Abbreviations

AGM	Annual General Meeting
DDC	District Development Committee
D-WASH-A	District WASH Adviser
DWS	Drinking Water Schemes
GoN	Government of Nepal
HH	Household
LCC	Life-cycle cost
MIS	Management Information System
O&M	Operation and maintenance
RWSSP-WN	Rural Water Supply and Sanitation Project – Western Nepal
VDC	Village Development Committee
WASH	Water, Sanitation and Hygiene
VMW	Village Maintenance Worker
WUSC	Water Users and Sanitation Committee

Executive Summary

Introduction

Rural Water Supply and Sanitation Project-Western Nepal, Phase II (RWSSP-WN) contributes in achieving the goal set by Government of Nepal, *" Achieving universal coverage of basic water supply and sanitation services to its citizens by 2017"*.

RWSSP-WN has been serving unserved pockets which are hard-to-reach, water scarce and beyond the usual gravity flow systems service, including challenges of sustainability and full functionality. The communities must be in a position to pay sufficient water tariff and to cover costs, especially where the lift schemes are concerned.

The purpose of this study "Cooperative as an Option for Operation and Maintenance Fund" is to recommend whether the Project should advice Water Users and Sanitation Committees to open account for their Operation and Maintenance Fund in the local cooperatives (considering the existence of varied cooperatives in communities) rather than keeping the funds in their bank accounts that were used during the implementation of their schemes.

This study was made by Ms. Sunita Sharma, short term consultant for RWSSP-WN II. Detail TOR in **Annex 1**

Three districts (Tanahun, Kapilvastu & Rupandehi) were selected for study area where 32 drinking water supply schemes implemented in Phase I of the project were visited. The study mostly adopted qualitative methods, wherein stakeholders' experience and perception are the source of information. The methodologies adopted for qualitative data were Focus Group Discussion, Key Informant Interview, Observation and Case studies. Similarly, secondary data (Baseline data, field visit report) were also taken into consideration for quantitative data. Study was conducted in June and July 2015.

Key Findings

- The operation of maintenance fund of Water Users and Sanitation Committee (WUSC) at present is being operated mostly through commercial banks with zero percent interest rate. Instead, banks are charging operational cost, resulting in the reduction in fund.
- 40% of sample WUSCs operate their accounts in Development Banks (mostly in Terai Region) with minimal interest rate. Banks located at district headquarters are not very accessible from the community.
- 12% of sample WUSCs mobilize their Operation & Maintenance (O&M) fund as Micro-Credit loan within the users with high interest rate upto 24%. These WUSCs were however not able to maintain their account books in a transparent manner.
- 50% of WUSCs are not able to generate the minimal operating cost at present. Expenses exceed the revenue generated through water tariff. Average operation expense for an electric lift scheme is approximately NPR 13,000.
- Existing cooperatives in the Village Development Committees (VDCs) provide a wide range of services with focus on saving and credit activities.
- The study noticed that capacity of WUSCs to maintain the book-keeping system, setting adequate tariff rate, operating and maintaining of water supply are not sufficient.
- Water tariff rate differs widely ranging from NPR 2 to NPR 200 per household.

Good practices and lessons learnt

The study revels following good practices and lessons for consideration in future design and implementation of the project activities.

- *Water Tariff:* Regular collection of water tariff in all water supply schemes regardless of the size of the tariff.
- *Human Resources:* Appointing of Village Maintenance Worker (WMW)/Pump Operator/Meter reader in almost all schemes.
- *Reinvestment by WUSC:* WUSCs are, in one way or the other, managing their reinvestment cost in the schemes to maintain the service level.
- *Operation and Maintenance Fund:* Funds that are operated through Development Banks are generating revenue, although in small amount.
- *Cooperative:* Existence of promising cooperatives that can provide services to WUSCs.

Conclusion & Recommendations

Mobilization of operation and maintenance fund:
More than 60% of sampled schemes operate their O&M fund through commercial banks in zero percent interest rate. Remaining schemes are also getting very nominal interest rates for their funds. The existing local cooperatives are providing minimum of 9% interest rate. Thus, WUSCs should operate their O&M funds in a way that generates revenue for them.

Water tariff rate:
Almost 100% of WUSCs are paying water tariff although the tariff size differs. WUSC should be able to set adequate tariff rate that covers at least the operation and maintenance expenses. More than 50% of schemes are not able to cover the operation cost. Serious consideration needs to be given to such schemes. Triggering exercise on need and importance of drinking safe water and paying water tariff is felt needed in all WUSCs.

Assessment of cooperatives:
Cooperative provides financial and non-financial services to its members. Financial service includes saving and credit activities whereas non-financial services include variety of services like training to its members, linkage development with related service provider, etc. Thus, capacity of existing cooperative should be assessed before operating O&M fund through that cooperative. Also capacity of WUSC should be enhanced on the need and importance of operating the account through cooperative.

Capacity enhancement of WUSC:
WUSC should be able to set the rules and regulations, maintain transparency, mobilize VMW/Operator efficiently, collect regular water tariff and maintain book-keeping properly. Thus, capacity of WUSC should be enhanced to get better results. ***Immediate public audit should be done in all WUSCs to maintain financial clarity.***

Operation of O&M through cooperative:
Operation of O&M fund through cooperative is one potential option for generating revenue with minimum expense. With the assessment criteria described in chapter 4.3, it is recommended for the WUSCs to operate their O&M fund through a cooperative. For example, Makaimro WUSC has huge potential to operate its fund through Thaprek Small Farmer Cooperative Ltd. 70% of cooperative members are WUSC members as well. WUSC should be facilitated to operate its account in cooperative or other local financial institution, if:

- O&M fund account is currently operated in commercial bank with zero percent interest rate;
- Bank charges an annual operation cost;

- Account holding bank doesn´t provide any support for operation and maintenance of Drinking Water Supply Scheme (DWSS);
- Banks are too far to reach for community people;
- Accessible options (cooperative) are available in community.

Operation cost of electric lift system

The operation cost of an electric lift system tends to be very expensive due to the electricity tariff rate. Average monthly operation cost of electric lift is approximately NPR 13,000. In addition, maintenance and reinvestment costs in sift schemes are remarkable (NPR 25,000 – median value).

There is a difference in estimated household and actual user household number: the actual HH number is less than the estimated. Therefore, the collection of water tariff is lower than expected, which is also one reason why more than 50% of electric lift system are operating in loss. Special consideration is needed to operate such schemes.

Some Glimpses of Record Keeping in WUSCs

1. INTRODUCTION

1.1. STUDY BACKGROUND

Government of Nepal (GoN) has envisioned for achieving universal coverage of basic water supply and sanitation services to its citizens by 2017. RWSSP-WN Phase II contributes to achieving the full coverage targets in its working regions. The remaining unserved pockets are expected to be hard-to-reach, water scarce and beyond the usual gravity flow systems service. At the same time, even if the coverage is already high, sustainability and full functionality remain challenges. The communities need to be in a position to pay sufficient water tariff and to cover costs, especially where the lift schemes are concerned.

RWSSP-WN Phase II purpose-level indicator 2 is "*All water supply schemes supported by the project provide functional, improved and safe water supply services.*" This indicator relates to Phase I and Phase II gravity flow and lift water supply schemes (piped water systems) that are operated and managed by WUSCs. Result 2 (Component 2) is "*Access to safe, functional and inclusive water supply services for all achieved and sustained in the project working VDCs.* "Sustainable service requires that financial systems are in place to pay for regular maintenance (i.e. compensate for a maintenance worker), fund timely repairs, extend and improve service as demand changes, respond to immediate damage occurring due to e.g. natural hazards or road construction, and eventually replace infrastructure at the end of its useful life.

Under Result 2, Indicator 2.2. takes a closer look at the institutional capacity of WUSCs. The composite indicator looks at whether an adequate water tariff has been defined, and whether it is collected i.e. in operation & maintenance fund. Other sub-indicators under 2.2. are WUSC registration status, whether O&M plan is made and applied, whether VMW has been trained and is working as needed, and whether WUSC has proportional representation of caste/ethnic/social groups and 50% women.

The RWSSP-WN Phase II baseline (2015) collected data on Operation and Maintenance(O&M) plan and implementation from 278 and 269 schemes out of total 367 Phase I gravity and lift schemes. Out of the WUSCs that were observed and interviewed, 49% confirmed that they have some type of O&M plan and 37% confirmed they are implementing it.

According to the baseline survey, 51% of the Phase I scheme WUSCs were collecting a water tariff. In majority of the schemes (71%), the monthly water tariff per household is NPR 50 or less. The RWSSP-WN Phase II has a defined method of calculating water tariff rate that is adequate for day-to-day operating cost of the scheme; this should be the minimum level of collected water tariff. There is also an option for more advanced WUSCs to calculate a water tariff that accumulates sufficient fund for the replacement of the scheme when it has surpassed its design period (project cost recovery) (Baseline Report 2015). WUSCs are likely to face challenges much earlier in terms of need to extend or increase the capacity of their water system, in addition to regular maintenance and repairs.

1.2. PURPOSE, GOAL & OBJECTIVES

The main purpose of the study was to review Operation and Maintenance Fund status of Water Users and Sanitation Committees and recommend optimum solution on generating revenue from O&M fund either through local institutions/cooperatives or micro-financing through WUSC.

Research objectives:

- Identify the best possible option for mobilization of O&M fund considering the type of WUSC and scheme (service level, number of customers, size with regards to physical structures, remoteness, capacity/activeness, economic activity etc.);
- List out the existing cooperatives in the study area and classify them with regard to objective and availability of service package that is relevant for WUSC to operate its account;

- Capacity gap mapping of WUSC to promote Cooperative Model;
- Analyze the trend of water tariff payment in different water schemes.

Report structure:
Review of literature on cooperatives, operation & maintenance, scheme life cycle cost and related topics is presented in chapter 2. Chapter 3 sums up the assessment of O&M status of DWSSs and how O&M fund is being mobilized. It also presents an analysis of cooperatives and their scope and viability. GESI considerations have been integrated in the findings and analysis wherever relevant and possible. Water tariff collection, capacity gap analysis of WUSCs and indicators of a viable cooperative are also discussed in this chapter. Chapter 4 illustrates the status of existing cooperatives and Chapter 5 concludes the study providing lessons and recommendations for the future.

1.3. METHODOLOY, STUDY AREA AND PARTICIPANTS

The study mostly utilized qualitative methods, wherein WUSC experience and perception are the sources of information. Other stakeholders included project staff at different capacity and locations, users, village maintenance workers and cooperative management people. Focus group discussions, semi-structured interviews, observation and key informant interviews were used as methods.

Checklist of interactions attached in ***Annex 2***.

The following three districts and nine VDCs were selected as the study area:

1. Kapilvastu: Mahendrakot VDC (Electric Schemes), O&M Training participants from 15 Schemes.
2. Tanahun: Barbhanjyang VDC, Ghasikuwa VDC, Sabung Deurali VDC, Ramjakot VDC, Bhirkot VDC and Thaprek VDC.
3. Rupandehi: Devdaha VDC and Parroha VDC.

All the selected districts have schemes with big investment and wide coverage that were implemented during the Phase I, including lift schemes (electric/solar) and gravity schemes. Out of the 32 sampled schemes, 19 are electric lift, 4 are solar lift, 2 are combined solar & electric lift and 7 are gravity schemes. Table 1 gives details on the average coverage (in terms of number of households), amount of investment (NPR) and investment per household (NPR) for different scheme types. By default, it can be expected that the investment cost reflects the future O&M fund need, for example when expensive components, such as pumps or electrical panels need to replaced. As shown in table 1, the cost of electric and solar schemes is approximately double compared to gravity schemes.

Table 1: Average coverage and investment cost of sampled schemes

	Electric lift N=19	Solar lift N=4	Solar & electric lift, N=2	Gravity N=7
HHs per scheme	186	101	201	101
Investment per scheme (NPR)	5,006,191	3,662,598	6,121,700	1,565,205
Investment per HH (NPR)	26,922.62	36,173.81	30,532.17	15,475.19

In addition to WUSCs of the 32 drinking water supply schemes, existing financial institutions were also interviewed for the study, including eight cooperatives from Tanahun and Kapilvastu and one development bank.

The information collected for the study was primarily from: WUSCs, VMW/Operator, Executive Committee member and staff of cooperatives, Manager of Development Banks and Field level staff of DDC/RWSSP-WN II.

1.4. EVALUATION ACTIVITIES & TIMELINE

The following are the activities undertaken for the study.

- Study of project documents, MIS report of O&M status of schemes
- Preparations for data collection and field visit
    - Selection of districts, VDC and schemes for study
    - Design survey questionnaires
    - Analyze the list of existing cooperatives from Division Cooperative Office
    - Finalize the field visit schedule in close coordination with D-WASH-Advisor
- Study visit to 3 districts from 6th – 24th June 2015 (Kapilvastu, Tanahun & Rupandehi)
    - Discussed with 32 WUSCs, 8 Cooperatives and 1 Development Bank
      Annex –3 provides the detail itinerary
    - Discussed with VDC officials
- Meeting and discussion during pump operator training at Barbhanjyang VDC, Tanahun and O&M training at Chandrauta, Kapilvastu
- Reporting: Information compilation and analysis, report preparation and finalization.

1.5. LIMITATIONS OF STUDY

The study focuses on identifying the options of generating revenue on Operation and Maintenance fund and capacity gap analysis of WUSC for operating O&M fund through cooperatives. For this, 32 WUSCs from 3 districts were selected as sample. Limitations of this study include:

- Sample size selected was quite small. Although the data obtained provided valuable insight and are applicable to a similar context and district conditions, differences in geographical diversity and per capita income of the beneficiaries must be taken into account when drawing conclusions from the data.
- Due to the planting season, it was difficult to gather all WUSC members for meeting. Thus, in some cases (particularly in trainings) information was collected from limited members.
- In few discussions, WUSCs were not able to present all the required documents (meeting minutes, book-keeping, bank statements, tariff collection book, etc.).

2. REVIEW OF RELEVANT LITERATURE

2.1. OPERATION AND MAINTENANCE

Operation refers to the everyday running and handling of a water supply. This involves several activities:

- Major operations required to convey safe drinking water to the users, e.g. starting and stopping a motorized pump, the supply of fuel and the control of valves.
- The correct handling of facilities by users to ensure long component life, e.g. the handling of a rope and bucket at a well, hand pump use, and the use of taps at a stand post.

The proper operation of a water supply system results in its optimum use and contributes to a reduction in breakdowns and maintenance needs.

Maintenance refers to the activities required to sustain the water supply in a proper working condition. Maintenance can be divided into:

- *Preventive maintenance* - regular inspection and servicing to preserve assets and minimize breakdowns.
- *Corrective maintenance* - minor repair and replacement of broken and worn out parts to sustain reliable facilities.
- *Crisis maintenance* - unplanned responses to emergency breakdowns and user complaints to restore a failed supply.

Maintenance costs money and a policy of crisis maintenance alone may appear cheap in the short term. However, continuing crisis maintenance leads to frequent breakdowns, an unreliable supply, poor service levels, and a lack of user confidence. Reliance on crisis maintenance may ultimately lead to complete system failure.

Rehabilitation entails the correction of major defects and the replacement of equipment to enable a facility to function as originally intended. Rehabilitation becomes necessary when it is no longer technically feasible or economically viable to maintain a facility in good working order. Maintenance will become uneconomic if the long term cost of rehabilitation and subsequent operation is more favourable than continued repair and maintenance. Water supply statistics often give the number of people served by improved water supplies. Unfortunately, the actual number of people served is far less because many supplies do not function reliably due to the neglect of operation and maintenance. Unless operation and maintenance is properly implemented, then continued investment in the development of water supplies is not worthwhile.

Ref: Making Water Supply Work, Operation and Maintenance of Small Water Supply System, Jan Davis & Francois Brikke, IRC, 2005

2.2. ABILITY AND WILLINGNESS TO PAY

O&M costs can only be recovered from users if they are both able and willing to pay for a water supply. It has been said that people should not have to pay more than 3 to 5% of their income for water and sanitation services. Actual payments vary greatly (Evans, 1992). A higher percentage of income expended on water will mean other important needs may not be fully met. Therefore, great care is required when setting user contributions.

Even if users can afford to pay O&M costs they may still be unwilling to pay. People will want to weigh the cost of an improved supply against a range of factors before committing themselves to paying.

Some important factors which influence the willingness of users to pay are listed below.

- **Income:** If users cannot afford to pay they will clearly be unwilling to pay.
- **Service level:** Users may be able and willing to pay for a hand pump but not for a more expensive yard tap. On the other hand, users may only be willing to pay for a higher service level.
- **Standard of service:** People are unlikely to pay for a poor service.
- **Perceived benefits:** Agencies and donors may see the most important outcome of a safe water supply in terms of health benefits. However, users may place a higher priority on the more immediate social and economic benefits. Perceived benefits may vary within a community. For example, men may be attracted by the commercial opportunities of greater quantities of water whereas women may be more interested in the greater convenience of a supply. Some people may stand to gain more than others and this can result in a variable willingness to pay within the same community.
- **Opportunity cost of time**: In the majority of situations it will be women's time that will be saved by an improved supply. Men and women may value the time saved in collecting water differently and women may be more willing to pay than men.
- **Acceptability of the existing source:** If users perceive their existing source to be acceptable they may be unwilling to pay for a new supply.
- **Confidence in the service agency**: Past disappointments have often undermined people's confidence in existing agencies and new initiatives. Users must have confidence that whatever they pay will be used by the management body to provide an acceptable service. An open and clear financial management system will help to instill trust and encourage payment.

- **Community cohesion:** Individuals in a divided community (due to ethnic, clan, class, political, or leadership divisions, for example) may be unwilling to pay into a common fund.
- **Policy environment:** Previous policies have encouraged the belief that access to safe water should be free. People may be unwilling to pay for something which they feel should remain free.
- **Perception of ownership and responsibility:** People may be unwilling to pay for the upkeep of a facility which they feel belongs to the government. Such a feeling may persist even when a system has been formally handed over to a community.
- **Institutional framework:** Community management structures which either bypass traditional authority or do not give users a reasonable say in the running of schemes may not be supported.

Although people may want a water supply, there are a complex range of issues which decide whether they are ultimately willing to pay for one. It is particularly important to identify who 'they' refer to. Women are often responsible for the provision of water in the household and the burden of water payments may fall on them. Therefore, payment studies must carefully consult the actual people who are going to have to make a decision on payment rather than approach the often more accessible male leaders in a community.

People may be willing to pay but they may be unable to afford the immediate combined capital and recurrent costs to get started. In such a situation, the availability of loans and credit can facilitate the initiation of a scheme. Agreement may be reached among users to exempt the poorest and seriously disadvantaged from payment.

Ref: Making Water Supply Work, Operation and Maintenance of Small Water Supply System, Jan Davis & Francois Brikke, IRC, 2005

2.3. COOPERATIVES IN GLOBAL CONTEXT

Cooperatives are increasingly becoming major actors in facilitating access to clean water and sanitation services to make up for the failures of both the public and private sectors.

Cooperatives have provided alternative ways for urban communities to get clean water and safe sewerage services. SAGUAPAC in the Bolivian city of Santa Cruz, for example, is the largest urban water cooperative in the world, with 183,000 water connections serving 1.2 million people, three quarters of the city's population, with one of the purest water quality measures in Latin America. In the Philippines, water shortages due to El Niño, managerial problems and financial losses due to corruption and politicizing led the Municipal Council of Binangonan city to allow cooperatives to provide water services.

Water cooperatives set up water delivery systems in their neighbourhoods. Water cooperatives also provide remote locations that would otherwise have no service. In the panchayat of Olavanna in India, acute drinking water shortages in the 1990s led to the establishment of 70 drinking water cooperative societies by 2012, providing water to more than 14,000 households in the region. In Africa, cooperatives in Ghana, Ethiopia and South Africa have used fair trade rebates to drill boreholes and establish local groups for maintenance. In the US, cooperatives are the most common organizational form of water provision in small suburban and rural communities, formed to provide safe, reliable, and sustainable water service at reasonable cost. There are about 3,300 water cooperatives in the US, providing water for drinking, fire protection, landscape irrigation, and wastewater services.

Sanitation has also been addressed by cooperatives, as part of providing shelter and upgrading slums. In India, the National Cooperative Housing Federation (NCHF) has mobilized the urban poor in more than 92,000 housing cooperatives, with a membership of over 6.5 million people, constructing and financing 2.5 million housing units, 75 percent for low income families. In Ankara, Turkey, an

alliance between the municipality and the union of housing construction cooperatives has supplied housing for 200,000 low and middle income people, and kept down sales and rental prices in the Ankara housing market. In Africa, too, the National Housing Cooperative Union (NACHU) in Kenya has been at the core of the Slum Up-grading Programme, organizing slum dwellers into cooperatives and helping them acquire decent houses.

Ref: Cooperative and Sustainable Development Goal, Contribution to the Post-2015 Development Debate, A Policy Brief, ICA-ILO

2.4. COOPERATIVES, ECONOMIC DEMOCRACY & HUMAN SECURITY: PRESPECTIVES FROM NEPAL

Cooperative movement in Nepal and elsewhere is viewed with much expectation and also with some scepticism. The expectation is for an inclusive and democratic society where people are economically empowered along with political one. The scepticism is because of its loose organizational structure, weak monitoring mechanism and political orientation. This paper is an attempt to analyze cooperatives from the political, economic, and social perspectives and highlight the socio-economic areas where they could better perform, particularly in the context of post conflict transformational Nepal.

Cooperatives, Employment Security and Poverty Reduction

Creating gainful employment and ensuring decent jobs is the best way to reduce poverty and empower people. The concept of decent work and the notion of inclusive economic growth resonate well with the cooperative model of economic and social development. Cooperatives, in principle, place more emphasis on job security for employee-members and employees' family members, pay competitive wages, promote additional income through profit-sharing, distribution of dividends and other benefits, and support community facilities such as health clinics and schools than do private sector businesses, and thus help to create a better production relation and avoid conventional conflicts between capital and labor.

Currently, an increasing number of worker-owned cooperatives worldwide provide employment to millions of worker-owners in diverse sectors as agriculture, small businesses, health and social services, energy, education, transport and tourism. Financial cooperatives are providing savings and credit services which also encourage the formation of new enterprises and thus create new jobs. In the agriculture sector, cooperatives can play a very significant role: given that 70 per cent of the world's poor reside in rural areas, employment growth in rural areas can be strengthened by increasing agricultural productivity, and also through the creation of non-farm employment. Cooperative can serve as an appropriate model for employment creation in this sector.

Cooperatives are also providing more quality job opportunities for youth, women, indigenous peoples, persons with disabilities and other marginalized groups. The ability of cooperatives to integrate women and youth into the workforce is particularly important, as these groups face discrimination and poor opportunities for employment. Appropriately designed cooperative enterprises and micro-finance schemes are particularly helpful for women, indigenous people, and backward communities. In light of the employment generation capacity of cooperatives, it becomes compelling for us to consider ways and means of mainstreaming the contribution of cooperatives to meeting the employment challenge facing the country today. The state and the cooperative promoters have to work closely as to how employment creation impact of cooperatives can be scaled up in order to massively generate new employment opportunities in those areas where public and private sector initiatives are weak or absent.

Poverty is often narrowly defined as a lack of essential items – such as food, clothing, water, and shelter – needed for proper living. But broadly defining, poverty is a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. If we closely look into the components of multiple

poverty, they are similar to the components of evolving concept of human security.

Human insecurity aggravates poverty or deprivation. And it is the poor who are the most vulnerable and constantly face the threat of downside risks of falling in poverty. This calls for sufficient attention to the circular nature of poverty and human security linked through vulnerability. Although, reduction of poverty in Nepal is noticeable, a deeper look into it shows that a large chuck of the people is at the threshold of poverty; and is prone to fall into it with minor shocks.

Poverty is strongly linked with access to basic needs and facilities. Access to services is also an important correlate of poverty. Households that are closer to facilities are less likely to be poor than the national average. Having good access to higher secondary school, public hospital, paved roads, market centers, agricultural center, cooperatives and banks have large effects on poverty. Surveys (CBS 2011) show that if 25 per cent of the households are in absolute poverty, only 17 per cent of the households who have access to cooperatives are absolutely poor. This proportion coincides with those who have access to market centre, agricultural centre, a bank, or a paved road.

During a period of the last 15 years, accessibility has improved almost universally for all types of facilities like schools, health posts, roads, agricultural centre, banks and financial institutions, market centre, etc. The outreach is better for social services but still worse for economic and infrastructure services. Surveys (CBS 2011) also show that 45 percent of households are within 30 minutes of access to the nearest market center while 20 percent households have to walk 2 hours and more to reach the market. Compared to market center, access to Haat bazaar (local market that operates during certain days of the week) is much better as 64 percent of households in the country are within 30 minutes reach to the nearest Haat bazaar. However, in the rural areas, it is much farther - the mean time taken by a rural household to reach haat-bazaar is 2 hours and 16 minutes. Cooperatives can play a big role in promoting such market centers through developing small infrastructure, collecting productions and making exchange possible with basic banking and financial services like cash withdrawals, deposits and credit. The role of marketing and saving and credit cooperatives could synergize this market development process.

Agricultural cooperatives can also work as an agriculture centre (Krishi Kendra) in the area where public service in this area is absent or far-off the community. At present, only 43 percent of households in Nepal reach the nearest agriculture center within 30 minutes of walk while 34 percent have to walk more than an hour to access the facility. About one in two households in the Terai, one in three in the hills and one in six households in the mountains region can reach the nearest agriculture center within 30 minutes.

Rapid expansion of cooperative organization in the last decade has made overall access to cooperative much better. Surveys (CBS 2011) show that 54 percent of households have access to a cooperative within 30 minutes of walk and 27 percent of households have to travel one hour or more to reach the nearest cooperative centre. Access in the urban areas is far better than that in the rural areas, as the mean time taken by a household in rural area to reach the facility is 75 minutes whereas it is only 18 minutes for an urban household. As most of these cooperatives also provide some kind of financial services, it has overcome the limited access to other financial services like that of a commercial bank. As such, access to a commercial bank is rather low in the country; only 40 percent of households in the country can reach the nearest bank within 30 minutes. In such a situation, cooperative can be instrumental to provide basic agricultural extension services, financial services and marketing infrastructure and thus to transform the agricultural sector for poverty reduction.

Ref: Yuba Raj Khatiwada, Ph. D. Governor, Nepal Rastra Bank, Paper Presentation at 1st National Cooperative Congress

2.5. ADEQUATE WATER TARIFF

One of the four Dublin Principles of 1992 states that water should be recognized as an economic good as it has an economic value in all its competing uses (ICWE, 1992).

The Four Dublin Principles:

1. Water is a finite, vulnerable and essential resource which should be managed in an integrated manner.
2. Water resources development and management should be based on a participatory approach, involving all relevant stakeholders.
3. Women play a central role in the provision, management and safe guarding of water.
4. Water has an economic value and should be recognized as an economic good, taking into account affordability and equity criteria.

Ref: Value of water research report series No.. 19, Pieter van der Zaag.

The wide implementation of adequately-priced user charges has been seen as the panacea needed "*to improve cost recovery, to facilitate adequate maintenance and expansion of water supply system and to provide incentives for conservation & reuse"* (UN, 2006, p. 36). A key paper presented at the Copenhagen Consensus of 2004 stated that "*users that pay for the water services that they use have an incentive to use the resource wisely and demand quality services*" and that "*the more users are removed from paying for service …. the higher the risk that service quality is low, users refuse to pay the fees or charges, services don't recover their costs, funding O&M falls short etc.*" (Rijsberman 2004).

2.6. THE LIFE-CYCLE COST APPROACH

Life-Cycle Costing is a common approach in developed countries to calculate and monitor the renewal of assets as well as optimizing spending on operations and maintenance of water systems. Life-cycle costs (LCC) "*represent the aggregate cost of ensuring delivery of adequate, equitable and sustainable water, sanitation and hygiene (WASH) services to a population in a specified area*" (Fonseca et al 2010). The Life-Cycle Cost Approach "*seeks to raise awareness of the importance of LCC in achieving adequate, equitable and sustainable WASH services, to make reliable cost information readily available and to mainstream the use of LCC in WASH governance processes at every level*" (Fonseca et al 2010). A methodology adapted to the developing country context was developed by WASH Cost, and detailed studies carried out in Ghana, Burkina Faso, Mozambique and India (Burr and Fonseca 2013)**.**

The approach uses the following categories for the collection of data and analysis:

Capital expenditure (CapEx):

CapEx is the cost of constructing fixed assets, such as concrete structures, pumps and pipes, and the cost of extending and improving the system. Investment in fixed assets is occasional and 'lumpy' (i.e. high relative to ongoing costs). This component also includes one-time work with stakeholders before construction or implementation, such as the cost of capacity building.

Operations and minor maintenance expenditure (OpEx):

OpEx covers labor, fuel, chemicals, materials and regular purchases of any bulk water, plus routine maintenance needed to keep systems running at peak performance; it does not include major repairs. For privatized utilities in a high-income country, operating expenses may amount to approximately 40% of total costs.

Capital maintenance expenditure (CapManEx):

CapManEx goes beyond routine maintenance to the repair and replacement of equipment to keep systems running; it covers asset renewal, replacement and rehabilitation. Accounting rules may govern what is included under capital maintenance and the extent to which the replacement assets can be depreciated. Renewing and reinvigorating community involvement may be part of capital

maintenance. Capital maintenance expenditures and potential revenue streams for paying those costs are critical to avoiding the failures that result from haphazard system rehabilitation. Capital maintenance expenditure may represent 30% of total life-cycle costs.

Cost of capital (CoC):
CoC is the expense of financing a programme or project and includes loan repayments and the cost of tying up scarce capital. In the case of private sector investment, the cost of capital includes what should be a 'fair profit', to be distributed as dividends. The cost of capital may be 30% of the total; if it is possible to access lower-cost public capital (at a risk-free rate), the proportion decreases.

Direct support (ExpDS):
Includes expenditure on post-construction activities directed at local stakeholders, users or user groups. In utility management, expenditure on direct support, such as for overhead, is usually included in operating expenditures. However, these costs are rarely included in rural water and sanitation estimates. The costs of ensuring local government staff have the capacity and resources to repair broken systems and monitor private sector performance are often overlooked.

Indirect support (ExpIDS):
ExpIDS includes government macro-level planning and policy making, plus developing and maintaining frameworks and institutional arrangements and capacity building for professionals and technicians. The expenditures are not tied to a particular programme or project.

Ref: WASHCOST 2012 Life-cycle cost approach to water, sanitation and hygiene, Module 1, IRC

3. ASSESSMENT OF OPERATION AND MAINTENANCE FUND

The underlying concept of operating cost of any drinking water schemes is generating revenue either through water tariff, interest of O&M fund or selling water as economic goods. If a scheme is not able to generate enough revenue to pay its operating expenses, then there arises a question of sustainability. Operating cost status of 32 sample WUSCs is depicted in Figure 1 below.

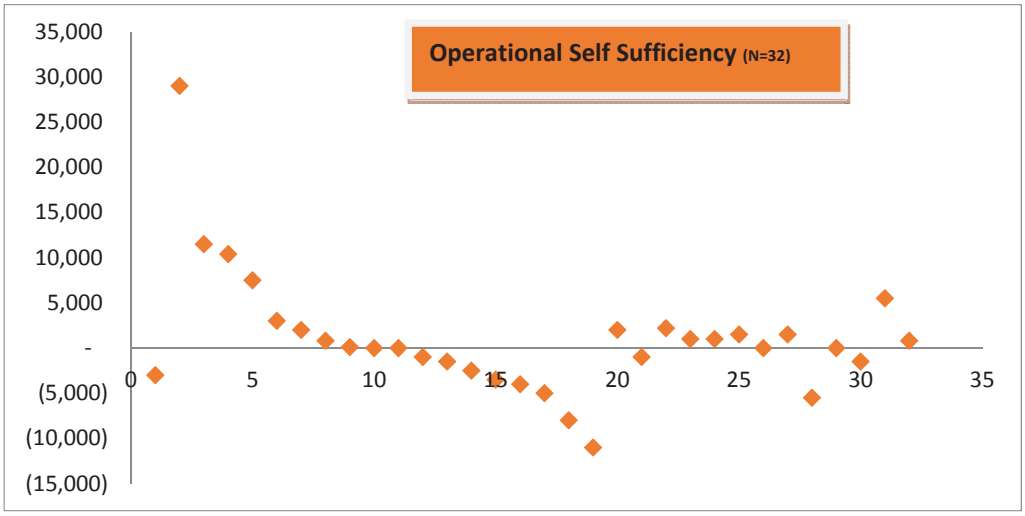

Figure 1 Operational Expenses Chart

Among 32 schemes, 40% are not able to meet its operating cost. Among them, 60% are electric lift system schemes and remaining are solar lift and gravity flow schemes. At present, 60% of schemes are able to cover their operating cost, that too near to break-even points. Very few schemes are able to generate surplus amount for future maintenance cost. This gives an early warning alarm for the

sustainability of the schemes. Details of each type of schemes regarding its O&M Fund status are described further.

3.1. ELECTRIC LIFT DWS

Electric lift drinking water supply tends to be most expensive in terms of operation expenses due to electricity cost in comparison with solar lift and gravity flow. In addition, the maintenance expenditure of electrical goods, fixing charges and lack of knowledge on available services are the constraints for regular water supply. Thus, the need of strong O&M fund is highly essential.

O&M Fund Status

The O&M status of 19 electric lift systems is depicted in Figure 2. Out of 19 schemes, only one scheme has above NPR 10 lakhs fund whereas 8 schemes has less than NPR 1 lakh in O&M fund.

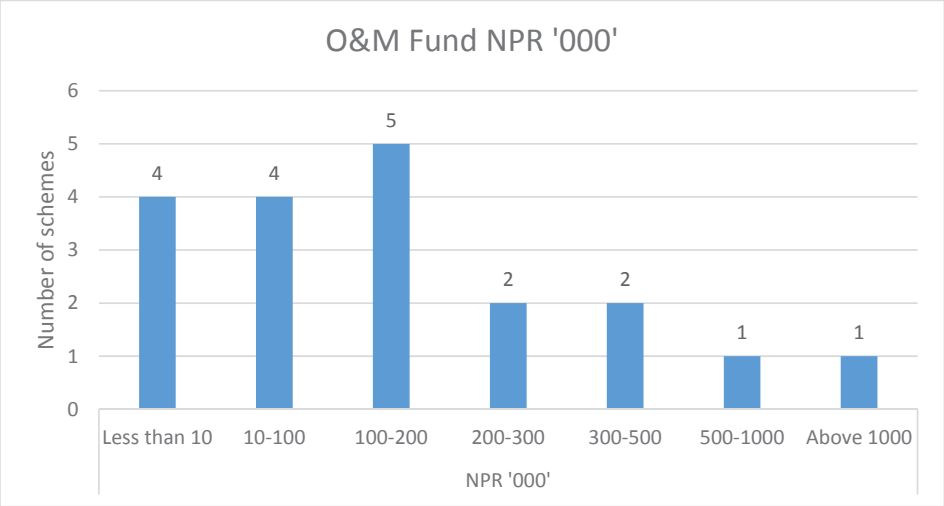

Figure 2: O&M Fund Status - Electric Lift System

Revenue Generation & Expenses

WUSCs need to generate revenue for the smooth operation and maintenance of schemes. Water tariff is the main source for revenue generation whereas nominal revenue can be generated through the O&M fund. At present, out of 19 electric lift schemes only 42% of schemes are able to meet their operating expenses whereas 58% schemes are running short of funds (Figure 3). Tariff rate varies in different schemes and also the parameter to charge the tariff rate (per unit cost; per tap cost; per HH cost).

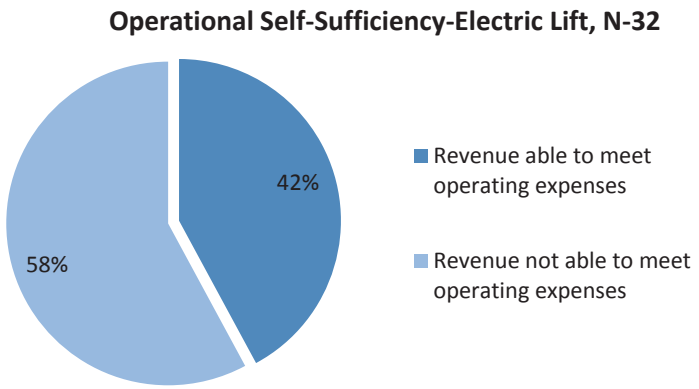

Figure 3: Operational Self Sufficiency - Electric Lift System

3.2. SOLAR LIFT DRINKING WATER SYSTEM

Solar lift systems are less expensive in terms of operating expenses in comparison to electric lift, but the maintenance cost of these schemes tends to be high. During the study it was found that solar schemes were affected with the thunder lightening and the maintenance cost was beyond the capacity of WUSCs.

O&M Fund Status

O&M status of 4 solar lift schemes is presented in Figure 4 below. Out of 4 schemes, 2 schemes have less than NPR 100,000 as O&M fund, whereas Narandihawa DWS of Kapilvastu district has NPR 125,000 and Sisarakhola DWS of Tanahun district has NPR 325,000 fund deposited in a bank.

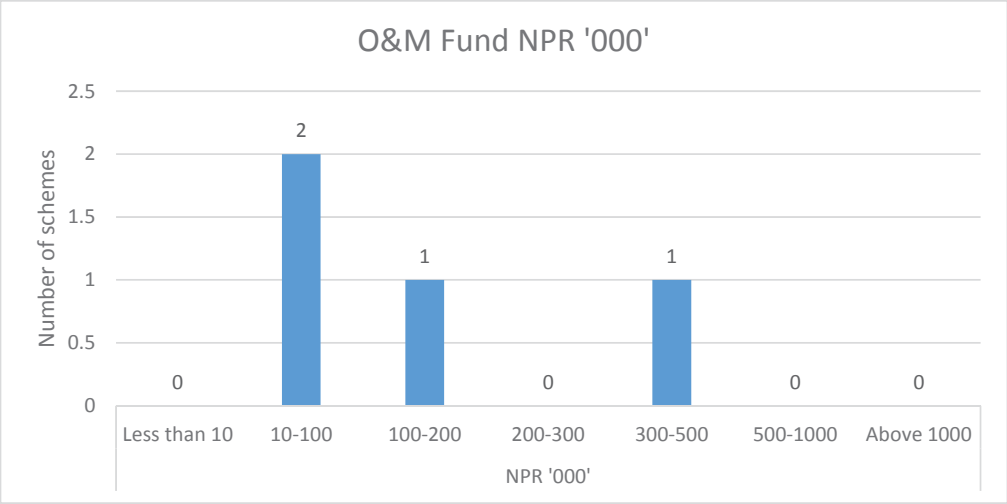

Figure 4: O&M Fund Status - Solar Lift System

Revenue Generation & Expenses

Among 4 solar lift schemes Jababhairab DWS of Kapilbastu is not able to bear its operating cost through the revenue generated. Remaining 3 schemes are able to maintain their operation cost (Figure 5). Monthly revenue and expenses of the four solar lift schemes are summarized in Table 2.

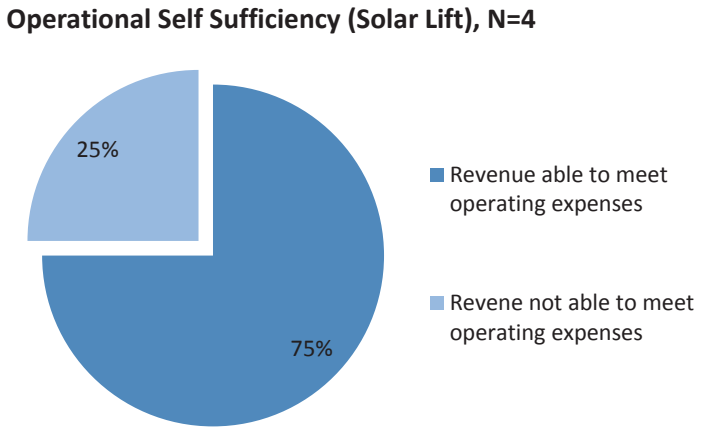

Figure 5: Operational Self-Sufficiency-Solar Lift Schemes

Table 2: Revenue Generation (Monthly Water Tariff) - Solar Lift System (N=4)

District	Schemes	Tariff Rate	Monthly Revenue(Tariff) NPR	Monthly Expenses NPR	Remaining Balance NPR
Kapilvastu	Narandihawa	NPR 80/10 units NPR 10/unit	8,000	6,000	2,000
	Jababhairab	NPR 60/tap	3,000	4,000	(1,000)
Tanahu	Chandrakot	NPR 50/HH	3,800	1,600	2,200
	Sisarakhola	NPR 50/HH	4,500	3,500	1,000

3.3. GRAVITY FLOW DRINKING WATER SYSTEM

Out of the sampled 32 schemes, 7 were gravity flow drinking water schemes. In comparison to lift system, the operating cost of gravity flow is less for the following reasons:

- Gravity flow schemes do not demand high skilled human resources for operation as compared to electric lift and solar lift schemes, thus the salary paid to operator is nominal.
- No electricity charges.
- User's friendly technology, resulting in less expenses in maintenance of spare parts reducing the operating cost as well.

It is also observed that Water tariff rate and O&M fund of gravity flow scheme is quite low for following reasons:

- It was found that gravity schemes need less technical knowhow for operation and less expensive. Thus users are reluctant to pay the water tariff.
- All observed 7 schemes have less than NPR 50,000 in O&M fund.
- Water tariff rate is NPR 50 per household, except Changadi Siblung DWS of Tanahu district having NPR 100 per household.

Gravity flow schemes tend to be less expensive and easily manageable for community people. The drawback is that these schemes are not able to serve water scarce areas i.e. hill tops and other areas that lack easily accessible water resources.

Revenue Generation & Expenses

As shown in Figure 6 and Table 3, water tariff revenue is enough to cover the operating costs in 3 schemes out of 7. Two schemes have a negative balance and another one scheme manages to break even. Data on total expenses and revenue was not available for one scheme.

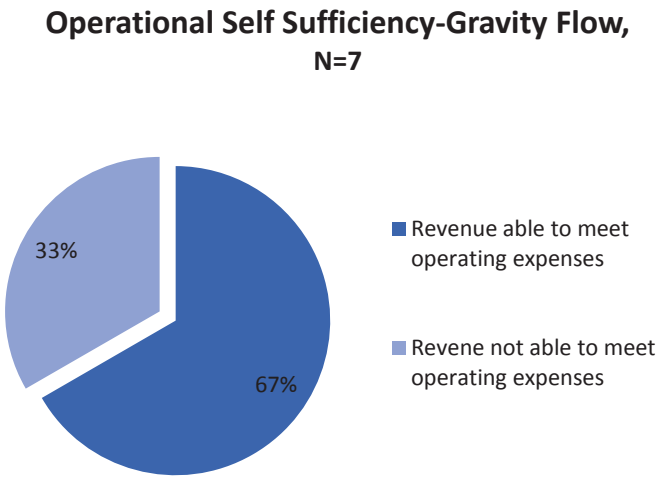

Figure 6: Operational Self Sufficiency-Gravity Flow

Table 3: Revenue Generation (Monthly Water Tariff) - Gravity Flow System (N=7)

Name of Schemes	Monthly Tariff	Total Revenue (Tariff) NPR	Total Expenses NPR	Remaining Balance NPR
Tallo Dharapani	NPR30/HH	4,000	3,000	1,000
Kamalbari	NPR2/unit	1,500		1,500
Bangesimal	NPR50/HH	1,500	1,500	-
Changadi Siblung	NPR100/HH	5,000	3,500	1,500
Saudi Chisapani	NPR50/HH	-	5,500	(5,500)
Sindure Kholsi	NPR30/HH	-	-	-
Gomandi DWS	NPR50/HH	-	1,500	(1,500)

Detail Information from WUSC is attached in ***Annex 4***

3.4. TRENDS AND ISSUES WITH O&M FUND

Total Revenue from O&M Fund (all schemes)

WUSCs are operating their O&M fund accounts in different banks. As per the rule of Government of Nepal, institutional account should be operated in Current Account, which doesn't provide any interest. 40% of WUSCs are operating their accounts in Development Banks (current account) generating minimal amount of interest. Interest rates of 32 O&M fund accounts are presented in Figure 7. It shows that 19 schemes (59%) get 0 interest for their O&M funds, 1 scheme each receives 3 and 4 percent interest rate and 11 schemes receive 6% interest rate.

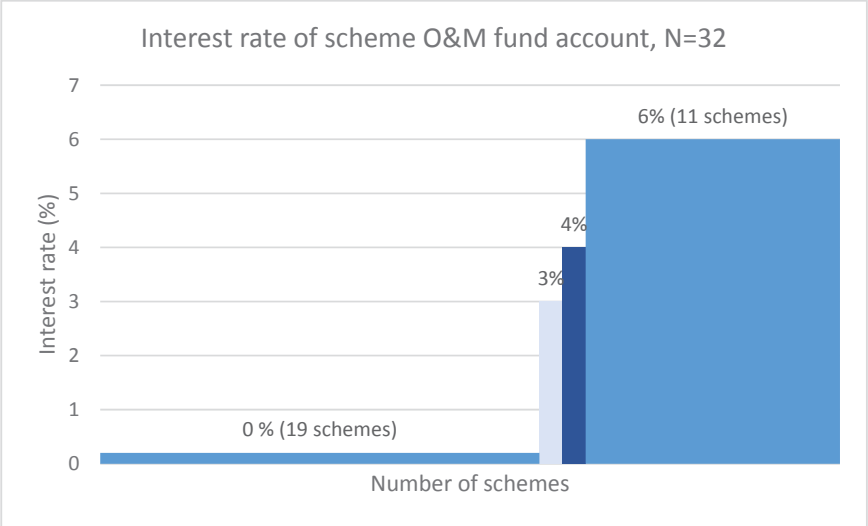

Figure 7: Interest rate of scheme O&M fund account.

Those 13 schemes whose O&M fund account accumulates interest are shown in Table 4. The Table also presents details about the amount of revenue generated, which depends on the O&M fund amount and the interest rate. Remaining 19 WUSCs operate their accounts in Current Account where they are not able to earn any interest. Local financial institutions/cooperatives in the VDCs are providing 9% interest rate at minimum. Thus the loss of revenue on accumulated O&M Fund is NPR 623,535.

Detail calculation is attached in ***Annex 5*.**

Table 4: Revenue Generation (interest earned), N=13

S.N.	Name of Schemes	O&M Amount (NPR)	Rate of Interest (% pa)	Revenue Generated (NPR)
1	Manakamana DWS	134,000	6	8,040
2	Tarkeshworna DWS	143,578	6	8,615
3	Supa Deurali DWS	239,157	6	14,349
4	Kapase Phakaiya DWS	69,500	6	4,170
5	Basantapur DWS	143,000	6	8,580
6	Birpur DWS	400,000	6	24,000
7	Durga Bhawani DWS	5,000	6	300
8	Tikkar DWS	156,400	6	9,384
9	Dharapani-7 DWS	55,000	6	3,300
10	Turantapur DWS	600,000	6	36,000
11	Chamarbhanjyang DWS	500,000	6	30,000
12	Makaimro DWS	605,000	4	24,200
13	Kotiyamai DWS	56,056	3	1,682
		Total Revenue Generated p.a.		**172,620**

3.5. MICRO-FINANCING OF O&M FUND

Microcredit is the extension of very small loans (size of loan depends on the availability of funds) to impoverished borrowers who typically lack collateral, steady employment and a verifiable credit history (Micro Credit Wikipedia 2015).

Among the sample 32 WUSCs, 4 WUSCs mobilize O&M fund among the users as a microcredit loan. As shown in Table 5, the rate of interest is 24% in three WUSCs and 18% in one WUSC. Although the interest rate mentioned is quite high, none of the WUSCs were able to keep the book-keeping and generate revenue as promised.

Table 5: Mobilization of O&M Fund as Micro-Credit, N=4

S.N.	District	Name of Scheme	Amount (NPR)	Rate of Interest (%)	Date of Lending	Remarks
A	Tanahun	Dharapani-3	20,000	24	-	No record found
		Tallo Dharapani	60,000	18	-	Books of account not available during FGD
		Sindure Kholsi	55,000	24	2070/06/25 (BS)	No record found
B	Kapilvastu	Madhwanagar	190,000	24	-	Books of account not available during FGD
	Total		**325,000**			

The study identified some major issues with micro-financing by WUSCs, as listed below:

- WUSCs need to be well trained on fund management, book-keeping and good governance before initiating micro-finance options. Micro-finance might be an option in absence of accessible financial institution or when banks are providing zero percent interest only. But

without proper training and regular backstopping and monitoring it includes high risk of mismanagement of funds.

- No records found in most of the WUSCs during study visit.
- Repayment rate is very low**.** For example, Sindure Kholsi DWS, Tanahu gave loan to users on 2070/12/25 amounting NPR 59,378 but no repayment till date.
- WUSCs are responsible for the proper management of O&M fund. But, WUSC itself is not meant to be working as a micro-credit institution as these kinds of services are not included in roles and responsibilities of WUSCs. In most of the cases, WUSCs found reluctant to manage the funds and book-keeping.

3.6. CAPITAL MAINTENANCE EXPENDITURE

Capital maintenance expenditure is the cost of renewing, replacing, rehabilitating, refurbishing or restoring assets to ensure that services continue at the same level of performance that was first delivered. Examples include replacing a motor on a power pump or the pump rods/rising main/handle in a hand pump; cleaning/re-excavating the base of a hand-dug well; relaying the drainage field for a septic tank; flushing a borehole which no longer delivers the desired flow; cleaning a water tank, etc. The renewal of these assets, often after some years of operation, ensures the same level of service that users received when the asset was first installed.

Planning for capital maintenance expenditure is crucial to the sustainability of water, sanitation and hygiene services as shown in Figure 1. The red line shows a steady decline in service levels in the absence of capital maintenance as a system degrades over time. Eventually there is a need for renewed capital expenditure to replace the asset. The blue line shows service levels being maintained as the asset is maintained.

(Ref: Akvopedia 2015 http://akvopedia.org/wiki/File:CapManEx_fg_1.jpg)

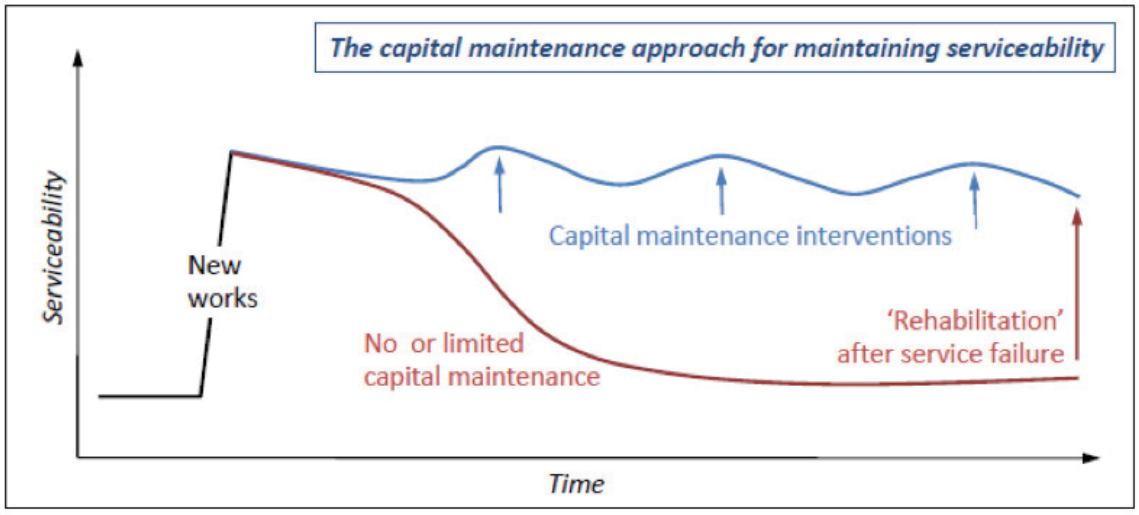

Figure 8: The capital maintenance approach for maintaining service level.

In this regard, the challenges in rural water supply in low-income countries include:

- A majority of tariffs are insufficient to cover capital maintenance costs, with many barely covering operational and minor maintenance costs;
- Tariff levels in a small proportion of cases are sufficient to cover operational and minor maintenance costs and also allow the service provider to establish a financial reserve. However, the financial reserve is not equivalent to the full depreciation of the asset base. This means that the service provider can operate effectively in the short and medium term,

but over time will find it increasingly difficult to maintain specific service delivery standards, and eventually a third-party will need to co-finance capital maintenance; and

- In exceptional cases the service provider is able to raise funds that are adequate to cover operations and capital maintenance costs.

(Ref: http://www.ircwash.org/sites/default/files/201303_9_wp_capmanex_web.pdf*)*

3.7. MAINTENANCE STATUS OF DWS

The study tried to analyze the actual maintenance expenditure of selected drinking water supply schemes and financing options. Table 6 shows the annual repair and maintenance expenses of Murgiya scheme located in Rupandehi. Murgiya is taken as an example of a successful scheme that is able to bear its maintenance expenditure with own financing. Table 7 presents the repair expenses of 11 schemes located in Tanahun, since their establishment 2-4 years back. In four out of 11 schemes the repair expenses exceed NPR 100,000 since the establishment. In one of the schemes (Maibal), the submersible pump has been replaced twice since the scheme´s establishment 4 years ago, with expenses exceeding NPR 200,000.

Table 6: Annual Repair & Maintenance Expenses of Murgiya DWS FY 070/071

S.N.	Date	Particulars	Expenses (NPR)	Remarks
1	4/24/2070	Gasket	3,139	
2	5/6/2070	Pump Lowering	2,930	
3	6/20/2070	Motor Rewinding	35,000	
4	7/10/2070	Flange set and Pipe	6,520	
5	7/12/2070	Flange set and pipe welding	5,200	
6	7/24/2070	Lowering Charge	10,900	
7	7/24/2070	Aggregates	6,530	Gitti
8	8/16/2070	Flange Set	8,120	
9	10/20/2070	Flange Set/Not bolt	6,190	
10	11/30/2070	GI Fitting	2,410	
11	12/1/2070	Aggregates	6,000	Gitti
12	12/10/2070	Flange Set /Not bolt	3,890	
13	12/11/2070	Gasket/Not bolt/Washer	5,222	
14	12/16/2070	Molded case circuit breaker (MCCB)	5,812	>1000 Ampere
15	1/14/2071	Generator Servicing	14,313	
16	1/24/2071	Motor Pump	41,200	
17	2/4/2071	Pump Lowering Wage	2,400	
		Total for year 2070:	**165,776**	

Table 7: Repair & Maintenance Expenses of Schemes in Tanahun (Since its Estd.), N=11

S.N.	Name of Scheme	Date of Establishment	Particulars	Amount (NPR)	Remarks
1	**Nausaya DWS, Thaprek-6**	2070	Voltage Protection Guard (VPG)	3,000	(2 times)
			Fuse (3 times)		
			Indicator light (1 time)		
2	**Kafaleshowr DWS, Barbhanjyang-2**	2068	Panel Board (DOL) 1 time	25,000	
			Submersible Pump (2 times)	70,000	
			Direct Online set transfer	14,000	DO set transfer (2)
			VPG	3,000	(2 times)
			Magnetic Conductor (2 times)	2,000	
			MCCB		

			Pole Wire (1 Phase 600m)	6,000	
			Aluminum Conductor with steel (ACSR)Conductor Wires		
3	**Karchung DWS**	2070	VPG (3 times)	3,000	
			Magnetic Contractor (1 time)	2,000	
4	**Maibal DWS, Dharapani Barbhanjyang-3**	2068	VPG (7 times)	3,000	
			Amp Meter (3 times)		
			Volt Meter (2 times)		
			Magnetic Contractor (1 time)	2,000	
			Fuse		
			Submersible Pump (2 times) 4HP	210,000	
5	**Kulung Dharapani DWS, Keshabtar-7**	2069	No data		New operator
6	**Jaljale DWS, Basantapur-2**	2071	Panel Board all damage (1 time)		
7	**Dharapani DWS, Barbhanjyang-7**	2068	Transformer (25KVA)	100,000	(NPR 40,000 from DDC for repair)
			VPG	3,000	
			Magnetic Contractor (2 sets)	2,700	
8	**Nabrungdevi DWS. 6&7 Barbhanjyang**	2068	Transformer Repair	54,000	NPR 27,000 from DDC
			VPG (3 times)	3,000	
			Magnetic Contractor (3 times)	2,000	
			MCCB (30 amp) Change	5,000	
9	**Makaimro DWS, Thaprek-7**	2068	Panel Board Damage due to Lightning	35,000	
			ToD (Time on Demand Meter	12,000	Paid to NEA
			VPG (16 times)	3,000	
			Timer Change	6,000	
			Magnetic Contractor (2 times)	2,000	
10	**Bilaune Khola DWS, Thaprek 3&4**	2069	VPG (7 times)	3,000	
			Timer (4 times)		
			Magnetic Contractor (3 times)	2,000	
			Fuse (24 times)		
			ToD (Time on Demand Meter		
			MCCB (2 times)		
11	**Jaupani DWS, Manpang-7**	2070	4.5 HP Motor		
			Submersible pump damage, 7.5 HP new change	95,000	
			Float Test Switch	25,000	
			VPG (2 times)	3,000	
			Magnetic Contactor (1 time)	2,000	
			Fuse HRC (20 times)	15/piece	

Lack of capital maintenance can manifest itself in various ways, namely by loss of or reduced functionality, infrastructure lasting less than its design life, or service levels starting to decrease in terms of quantity, quality or reliability – a failure of serviceability. However, not all service shortfalls are caused by the lack of capital maintenance; there might be many other institutional and environmental causes *(Ref: WASH Cost working paper 9).*

4. ASSESSMENT OF COOPERATIVES

4.1. COOPERATIVE, ITS VALUE AND PRINCIPLES

International Cooperative Alliance (ICA) defines cooperative as "*an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise*".

Co-operatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

Seven international principles of cooperatives:

- Voluntary and Open Membership
- Democratic Member Control
- Member Economic Participation
- Autonomy and Independence
- Education, Training and Information
- Cooperation among Cooperatives
- Concern for Community

Institutionalization of Operation and Maintenance Fund through a Cooperative

A Case Study of Sirsha Small Farmer Development Cooperative, Sirsha, Dadeldhura

Sirsha Cooperative, established in November 2009, is serving 1,993 members covering 72% of households in Sirsha VDC. The cooperative received a National Award for including Raute population (an indigenous tribe in Nepal) as its members.

The cooperative provides a wide range of services to its members, including saving & credit, enterprise development and managing a collection center for marketing of agro-products. At present, 19 gravity flow WUSCs operate their accounts through this cooperative. The total O&M fund is NPR 418,131 and total interest generated till date was NPR 124,789. Apart from this, the cooperative also has an O&M fund where 7% of total profit is allocated. NPR 14,071 was allocated to O&M fund from FY070/071 profit.

4.2. SCOPE OF COOPERATIVE

Cooperative can have a wide scope services it delivers to its members. For example, it can contribute to revenue generation, employment creation, enterprise development, and addressing various social issues. In Nepal, types of cooperatives based on their main service provision include:

- Saving and Credit Cooperative
- Agriculture Cooperative
- Production Cooperative (tea, coffee, honey, milk, etc.)
- Marketing Cooperative
- Consumer Cooperative
- Multipurpose Cooperative

Out of the 8 cooperatives interviewed for the study, 4 were Agriculture Cooperatives, 2 Saving and Credit Cooperatives, 1 Multipurpose Cooperative and 1 Enterprise Development.

4.3. FINANCIAL STATUS OF SAMPLE COOPERATIVES

Financial status of any financial institute assists to evaluate past operations and is the basis for management and operating decisions in future. Financial report gives clear pictures on coverage area, equity capital, net profit, utilization of loan, etc. The financial status of 8 sample cooperatives is presented in brief in Table 7. Detail in ***Annex 6***

Table 8: Status of Cooperatives, N=8

S. N.	Name of Cooperative	Share Capital (NPR)	Saving (NPR)	Loan Outstanding (NPR)	Rate of Interest (%)	Repay-ment Rate (%)
1	Amardeep Saving & Credit Coop. Ltd.	453,700	1,348,785	3,132,293	9 &15	-
2	Jyoti Saving & Credit Coop. Ltd.	111,400	1,823,972	1,799,397	10& 16	-
3	Changatini Devi Female Coop. Ltd.	119,600	2,994,492	0	9 &15	-
4	Guruganga Agriculture Coop. Ltd.	67,600	134,946	214,000	9 &15	-
5	Shree Shivalaya Krishi Utpadak Coop. Ltd.	114,000	-		12&18	-
6	Aadharshila Samajik Uddhemi Mahila Sahakari Sanstha Ltd.	668,000	1,761,524	3,135,339	9&15	-
7	Shree Laghu Udhyog Coop. Ltd.	49,000	245,702	417,900	10&16	-
8	Thaprek Sana Kissan Coop. Ltd. Thaprek	569,500	316,400	2,408,500	12&18	-

4.4. GOVERNANCE IN COOPERATIVE

Cooperative governance is the act of steering cooperatively owned enterprises toward economic, social, and cultural success. It consists of answering key questions, defining roles and responsibilities, and establishing processes for setting expectations and ensuring accountability.

The Four Pillars of Cooperative Governance are:

- **Teaming:** working together to achieve common purpose.
- **Accountable empowerment:** empowering people while at the same time holding them accountable for the power granted.
- **Strategic Leadership:** articulating the cooperative's direction/purpose and setting up the organization for movement in this direction.
- **Democracy:** practicing, protecting, promoting, and perpetuating our healthy democracies.

Within a cooperative, regardless of one´s role, the expectation is that everyone is responsible for working together effectively, accountable and able to empower others, focused on purpose, and participate in ensuring a healthy democracy. It is what cooperatives are working to achieve, not only in the boardroom but also in the workplace and with members in the cooperative. Governance - steering, making key decisions, working together for common goals - happens throughout the cooperative at every level.

Therefore, the Four Pillars of Cooperative Governance is a framework for connecting the cooperative's values to governance activities at all levels: staff, management, board, and owners. Each of the four pillars -Teaming, Accountable Empowerment, Strategic Leadership, and Democracy - is relevant to each constituency in a cooperative. Again, Four Pillars of Cooperative Governance is not about changing systems, but a new way of thinking about the role of governance in a cooperative.

(Ref: www.grocer.coop/system/files/legacy_files/four-pillars-of-cooperative-governance.pdf)

4.5. FINDINGS ON COOPERATIVE GOVERNANCE

Assessment of the 8 sample cooperatives based on the ´Four Pillars of Cooperative Governance´ is presented below.

Teaming: Success of any cooperative lies heavily with the structure of its board members. Inclusive and visionary leadership shapes a way to success of any cooperative. Cooperative Board has an

authority/responsibility to identify and address the needs of its members and to design policy and programs to meet its members´ needs.

- All 8 cooperatives have executive board with 7-11 members.
- Decisions are made through the board members.
- It was found that cooperative board members are not very clear on the roles and responsibilities and lack capacity to provide effective leadership.

Accountable Empowerment: Cooperative is accountable to empower its members but at the same time members should also be accountable for the power granted.

- Lack of cooperative education among its members were observed due to which people are reluctant to build trust with cooperative.
- 7 cooperatives have paid regular staff for the daily operation of cooperative. The cooperative needs to capacitate its staff through different trainings to ensure the transparent operation. Shree Shivalaya Krishi Utpadak Cooperative of Tanahun district is the only cooperative among 8 not having regular paid staff.

Strategic Leadership: Cooperative needs to articulate its vision and direction with various guidelines and policies.

- All cooperatives have statute but none of them have Account Guideline, Loan Guideline or Administrative Guideline.
- Sub-Committees (Account Committee, Loan Committee, etc.) are either not formed or inactive.
- Committee members need to be capacitated to effectively provide their leadership.

Democracy: Cooperative is one of the best examples of democratic practices where all members have equal rights regardless of their capacity. A healthy democracy gives owners opportunities to meaningfully participate in reflection and change in their organization.

- All cooperatives have selected their members through democratic practices.
- Regularity in annual general meetings is not practiced.
- Able to create upward linkages with district level federation.

4.6. CAPACITY ANALYSIS OF COOPERATIVE

The performance of rural financial institutions highly depends on the capacity development of its members. The Executive Committee members, sub-committee members, shareholders and staff members should be trained in managerial, financial and administrative skills. The capacity of any cooperative can be assessed with the minimum following criteria:

Table 9: Criteria for cooperative assessment

S.N.	Categories	Checklists	Indicators
1	General Information	Registered as per GoN rules and regulations	Registration Number
		Address	Should serve the wards of WUSC
		Type of cooperative	Able to provide service to WUSC
		No. of shareholders	WUSC members should be included as members of the cooperative
		No. of WUSC member as shareholders	Should cover substantial number
		Services (financial/non-financial)	Saving and Credit; Other services e.g. linkage development, counselling etc.
2	Governance	Executive committee composition	Inclusive executive committee (at least some members from WUSC)
		Statute & guidelines (account, loan & administrative)	Cooperative should have all these guidelines

		Annual general meeting	Regular AGM organized
		Regular monthly meeting	Regular meeting organized
3	**Financial Status**	Share capital	Shows good volume as per SH number
		Types of savings	Should be able to operate O&M saving account with regular interest rate
		Sector of investment	Investment in income generation activities
		Repayment rate	Above 90%
		Rate of interest in saving	Above 9% (preferable)
		Reserve fund	Reserve fund of cooperative compatible with the size of its operation
4	**Management Status**	Office/no. of staff	Presence of trained regular office staff
		Capacity building of EC, sub-committee, staff members	Trained EC, sub-committee, staff members
		Affiliation with bank/federation	Affiliated with bank/federation

4.7. WUSC CAPACITY REQUIREMENTS

WUSCs can benefit from the services provided by a local financial institution. The services can be either financial or non-financial services. However, for a WUSC to be ´bankable´ and take the maximum benefit from a cooperative, it should fulfil certain criteria.

Volume of Transaction:

Any financial institution needs substantial volume of capital to generate profit in its operation. Thus, WUSC should be able to generate O&M fund depending on the size of scheme that will be able to generate revenue/interest (Minimum NPR 100,000). Out of the sampled 32 water supply schemes, 14 have more than NPR100,000 as O&M Fund.

Adequate Water Tariff Rate/Operational Self-Sufficiency:

WUSC should be able to generate sufficient revenue for operational self-sufficiency. Therefore, it should set a water tariff which should be able to meet its operational requirement and find the ways to generate revenue in its O&M fund. Out of the sampled 32 water supply schemes, 16 WUSCs are able to maintain its operational cost through its revenue.

Operation and maintenance status:

The status of schemes should be functional with regular operation and maintenance.

5. CONCLUSION AND RECOMMENDATIONS

5.1. CONCLUSIONS

- WUSCs´ O&M funds are at present being operated mostly through commercial banks with zero percent interest rates. Instead, banks are charging operational cost resulting in the reduction of the fund.
- 40% of sampled WUSCs operate their account in Development Banks (mostly in Terai Region) with minimal interest rate. Even though the banks are located at the district headquarters they are not very accessible from the community.
- 12% of sampled WUSCs mobilize their O&M fund as a micro-credit loan within the users with high interest rate up to 24%. However, these WUSCs were not able to maintain their account books transparently.
- 50% of sampled WUSCs are not able to generate the minimal operating cost at present. Expenses exceed the revenue generated through water tariff.
- Existing cooperatives in the VDCs are providing wide range of services with focus on saving and credit activities.

- The study noticed that the capacity of WUSCs to maintain the book-keeping system and set adequate tariff rate for operating and maintaining the water supply scheme are not sufficient.
- Water tariff rate differs widely, ranging from NPR 2 to NPR 200 per household.

5.2. GOOD PRACTICES AND LESSONS LEARNED

Based on the interaction with WUSCs and other stakeholders at village level, the study identified the following good practices and lessons for consideration in future design and implementation of the project activities.

- **Water Tariff:** Water tariff is collected regularly in all water supply schemes, regardless of the tariff rate.
- **Human Resources:** VMW/pump operator/meter reader appointed in almost all schemes.
- **Operation and Maintenance Fund:** Fund that is operated through Development Banks is generating revenue, although in small amount.
- **WUSC's Reinvestment in Schemes:** Study revealed that lift drinking water schemes are more expensive in operation than gravity flow schemes. In addition to regular operation expenses (electricity expenses, administrative costs), lift schemes required investment to maintain the service level due to system breakage (details in Tables 5 & 6). WUSCs were however managing to reinvest capital for smooth operation of schemes. The median reinvestment value is NPR 25,000.
- **Cooperatives:** There are promising cooperatives that can provide services to WUSCs. Most of the cooperative members are also WUSC members. WUSCs have huge potential to get immediately affiliated with cooperatives and utilize their service. With further technical backstopping to WUSC on Cooperative and its service, it can instantly generate additional revenue for its O&M fund.

5.3. RECOMMENDATIONS

Mobilization of Operation of Maintenance Fund: More than 60% of sample schemes operate their O&M fund through commercial banks in zero percent interest rate. Remaining schemes get very nominal interest rate, i.e. 2% annually. The existing local cooperatives provide minimum of 9% interest rate. Thus, **WUSC should operate its O&M fund where they are able to generate revenue**.

Water Tariff Rate: Almost 100% of WUSCs pay water tariff, however, the rate differs in size. WUSC should be able to set adequate tariff rate so that they are able to operate the schemes properly. More than 50% of schemes are not able to cover the operation cost. Serious consideration needs to be given to such schemes. **Triggering exercise on need and importance of drinking safe water and paying water tariff** is felt needed in all WUSCs.

Assessment of Cooperative: Cooperative provides financial and non-financial services to its members. Financial service includes saving and credit activities, whereas non-financial services include variety of services like training to its members, linkage development with related service provider, etc. Thus, **capacity of existing cooperative** should be assessed on the basis of above mentioned criteria (Table 8) before operating O&M fund through that cooperative. Also capacity of WUSC should be enhanced on the need and importance of operating the account through cooperative.

Capacity Enhancement of WUSC: WUSC should be able to set the rules and regulations, maintain transparency, mobilize VMW/Operator efficiently, collect regular water tariff and maintain book-keeping properly. Thus, **capacity of WUSC** should be enhanced to get the better results. Immediate public audit should be done in all WUSC to keep financial clarity.

- Regular technical backstopping for WUSCs on maintaining the account books.

- Refresher training on book-keeping and record-keeping (in every 6 months depending on the monitoring report).
- Risks associated with mismanagement of fund.
- Knowledge on revenue generations of O&M fund.
- Techniques on identifying the most suitable financial institution for operating its account
    - Bank interest rate
    - Service charge
    - Loan availability for maintenance
    - Other services
- Understanding water as economic goods.
- Concept on Capital Maintenance Expenditure of DWS

Operation of O&M through Cooperative: Operation of O&M fund through cooperative is one potential option for generating revenue with minimum expenses. With the assessment criteria mentioned in 4.3, WUSC should operate its O&M fund through a cooperative. Makaimro WUSC in Tanahun has huge potential to operate through Thaprek Small Farmer Cooperative Ltd. 70% of cooperative members are WUSC members as well. WUSC should be facilitated to operate its account in cooperative or other local financial institution, if:

- O&M fund account is operated in a commercial bank with zero percent interest rate.
- Bank charges an annual operation cost.
- Account holding banks are not providing any support for operation and maintenance of DWS.
- Banks are too far to reach for community people.
- Accessible options (cooperative) are available in community.

Operation Cost of Electric Lift System: The operation cost of electric lift system tends to be very expensive due to the electricity tariff rate. Average monthly operation cost of electric lift is approximately NPR 13,000. In addition, maintenance cost and reinvestment cost in lift schemes are remarkable (NPR 25,000 – median value).

There is difference in estimated households and the actual users' households, actual households being less in number than estimated. Thus, the collection of water tariff is not as expected, which is one reason why more than 50% of electric lift schemes are operating in loss. Special consideration is needed to operate such schemes

TERMS OF REFERENCE FOR

COOPERATIVES AS AN OPTION FOR OPERATION & MAINTENANCE FUND

National Short Term Expert

PURPOSE

The purpose of the proposed short term consultancy is to recommend whether the Project should recommend Water Users and Sanitation Committees to open account for their Operation and Maintenance Fund in the local cooperatives rather than keeping the funds in their bank accounts that were used during the implementation of their schemes. This considering the variety of cooperatives that exists in Nepal.

BACKGROUND

Government of Nepal (GoN) has envisioned for achieving universal coverage of basic water supply and sanitation services to its citizens by 2017. RWSSP-WN Phase II contributes to achieving the full coverage targets in its working regions. The remaining unserved pockets are expected to be those hard-to-reach, water scarce and beyond the usual gravity flow systems service. At the same time, even if the coverage is already high, sustainability and full functionality remain challenges. The communities need to be in a position to pay sufficient water tariff and to cover costs, especially where the lift schemes are concerned.

RWSSP-WN Phase II purpose-level indicator 2: is "All water supply schemes supported by the project provide functional, improved and safe water supply services." This indicator relates to Phase I and Phase II gravity flow and lift water supply schemes (piped water systems) that are operated and managed by WUSCs. Result 2 (Component 2) is "Access to safe, functional and inclusive water supply services for all achieved and sustained in the project working VDCs."Sustainable service requires that financial systems be able to carry out regular maintenance (i.e. compensate for a maintenance worker), fund timely repairs, extend and improve service as demand changes, respond to immediate damage occurring due to e.g. natural hazards or road construction, and eventually replace infrastructure at the end of its useful life.

Under Result 2 Indicator 2.2. takes a closer look at the institutional capacity of WUSCs. This is a composite indicator in which the financial management, including water tariff and Operation & Maintenance (O&M) fund together with O&M Plan are considered as something that makes WUSCs and their schemes sustainable:

# of WUSCs supported by the Project fund in the Phase I and Phase II are inclusive and capacitated to provide sustainable services. WUSC defined as functional fulfils the following criteria:
a) WUSC is registered and has statute.
b) O&M plan made and applied
c) Adequate water tariff defined and collected
d) VMW trained and working as needed
e) WUSC has proportional representation of caste/ethnic/social groups and 50% women.

The target is 100% of WUSCsoperating gravity and lift schemes, including 367 Phase I WUSCs.Continued sustainable access to water supply services depend on the ability of the WUSC to keep the facility functional. In the Phase II there are results indicators that apply also to Phase I WUSCs in this regard. However, these indicators apply only to gravity schemes and lift schemes, as these schemes serve clusters of households and require active WUSCs to operate and maintain them. Smaller water supply schemes that serve individual households or groups, often operated by Water User Groups that are recorded in their respective VDCs, are not included in this indicator. Such schemes mainly include dug and tube wells and rain water harvesting systems. The gravity and lift scheme will be counted if all 5 conditions respond positive during the final, post-construction phase monitoring.

The RWSSP-WN Phase II Baseline (2015) collected data on Operation and Maintenance(O&M) plan and implementation from 278 and 269 schemes out of total 367 gravity and lift schemes. Out of the WUSCs that were observed and interviewed, 49% confirmed that they have some type of O&M plan and 37% confirmed they are implementing it. The sub-indicator "*Adequate water tariff defined and collected*" consists of two parts, firstly, status of water tariff collection (yes or no), and secondly, whether the tariff has been defined based on the water tariff calculation model to ensure that it is adequate for O&M and cost recovery (yes or no).

According to the baseline survey, 51% of the Phase I scheme WUSCs were collecting a water tariff. In majority of the schemes (71%), the monthly water tariff per household is NPR 50 or less. The RWSSP-WN Phase II has a defined method of calculating water tariff rate that is adequate for day-to-day operating cost of the scheme; this should be the minimum level of collected water tariff. There is also an option for more advanced WUSCs to calculate a water tariff that accumulates sufficient fund for the replacement of the scheme when it has surpassed its design period (project cost recovery) (Baseline Report, 2015).The question remains to what extent cost recovery is possible and to be even promoted, considering the inflation and other rapid changes? What is the ultimate aim as it is unlikely that after the end of design period (20 years) exactly similar structure would be even constructed: expectations and population is changing, and water scarcity is a reality. WUSCs are likely to face these challenges much earlier in terms of need to extend or increase the capacity of their water system, in addition to regular maintenance and repairs.

OBJECTIVES AND SCOPE OF WORK

WUSCs need to have cash at hand when they need it, regardless of theultimate level of cost recovery level. This is a minimum requirement: WUSC need to be able to collect *some* cash and this cash needs to keep its value, stay safe and be available when it is needed. It now appears that the "normal" banks where WUSCs have opened an account for the investment funds may not be the long term option. Some of the reasons being that these banks are often located in the district headquarters, possibly several days away from the WUSCs VDC. Consequently these accounts tend to remain idle, eventually losing the interest that may have been minimal in the first place, and eventually the value due to inflation.

There are numerous WUSCs who do not collect any water tariff, there are those who do not know what to do with it or even how much they have in the bank and who is authorized to use it. There are also those who *do* collect water tariff and mobilize it as an informal saving-and-credit fund in the community. This is not necessarily safe and sustainable option either, a formal cooperative would appear as more safe and having better financial discipline. At the same time the funds would be mobilized locally.

This assignment will recommend to RWSSP-WN Phase II team whether the cooperatives would truly be such a good option as they seem to be. There is a range of different types of cooperatives and micro-financing arrangements in Nepal. Not all have the products and services that are suitable for water supply scheme WUSCs. If the study finds that there are indeed cooperatives with suitable products and services located in the remote areas, it should then identify these from the long list of cooperatives that exist in the Western region.

At the end of this assignment RWSSP-WN should know the following:

Are cooperatives something to truly recommend for WUSCs? The assessment should take into consideration that there are different types of WUSCs and schemes (service level, number of customers, size with regards to physical structures, remoteness, capacity/activeness, economic activity etc.): for what kind of WUSCs and in what kind of circumstances the cooperative model is the most suitable option and is most likely to succeed?The reply should be justified and backed up with evidence, using both primary data (field visit outcome) and secondary data (Cooperative related data available through public information systems and such as their annual reports)

How do we and our WUSCs identify a cooperative that is suitable and safe, what kind of indicators we need to look at? What kind of service packages are available, what would be the characteristics of the most suitable package for WUSCs?

What kind of training or information package we need to prepare for the WUSCs to promote the cooperative model? Does it require changes in the present WUSCs´ financial management practices or O&M Plan? Does an account in a cooperative open up new possibilities for the WUSCs that we did not consider before?

What kind of financial scenario can we expect for a typical WUSC, assuming that the O&M fund in a cooperative will get better interest and more easily available for WUSC when they need it? To what extent the costs can be recovered through having an active account rather than idle low or no-interest one? What is “an adequate water tariff” that warrants opening an account in a cooperative? Are the current water tariffs adequate as practiced at the moment, are those defined as part of Water Safety Plan and related Operation & Maintenance plan “adequate”?

What are the risks associated with using cooperatives, even when they are carefully identified, for ensuring that funds are available for WUSCs when needed, and how to manage these risks?

The following steps and responsibilities are recommended, subject to finalization by the selected consultant when preparing the detailed workplan with time schedule, with more details in the following “Expected Outputs & Deliverables” chapter:

Brief inception phase: Familiarize with the RWSSP-WN WUSC capacity building packages and post-construction guideline, including the water tariff calculation. Develop a more detailed research plan for the assignment, further elaborating the research questions and set-up, analytical framework for assessing the potential of cooperatives and methods. This conceptual setup will be discussed thoroughly with the project staff before proceeding to the step 2. At this point, the consultant should go through the cooperatives registered in the Western Development Region, and prepare a long-list of cooperatives whose services and suitability will be assessed in this study. The field work locations and logistics needed are also agreed here. It is recommended to focus on water-scarce hardship VDCs where the availability of water is not to be taken for granted.

Field phase:i) Interviews with short-listed cooperatives to map out the services they are providing and assess how relevant they are for the specific needs of WUSCs i) meeting with the relevant D-WASH-CC introducing the topic and raising overall debate on how WUSCs´ are currently managing O&M funds, and what can cooperatives offer? ii) meeting with the relevant V-WASH-CC/s for the same, raising VDC-level debate on why cooperatives, what are the current practices and can cooperatives provide a viable option for management of WUSCs´ O&M funds. ; iv) Meeting with different types of WUSCs to get their perception on current management of O&M funds, and feedback on the proposed cooperative model. Field phase will be, to extent possible, linked to the regular scheme monitoring visits. This will provide the consultant an opportunity to familiarize with all aspects of the scheme and its WUSC, and at the time, contribute to the scheme monitoring itself.

The field locations should be representative of the western region, with both accessible and inaccessible locations. It is expected that at least half of the allocated days will be spent in the field.

Reporting phase: Reporting back to V-WASH-CC/s and D-WASH-CC as agreed with these. Final reporting session in the Project Support Unit, Pokhara, where the report can also be finalized in close collaboration with the project staff.

METHODS

The methodology will be developed by the selected consultant at the onset of the work and will be presented in detail when finalizing the workplans and related time schedule. The methodology is mostly qualitative, including interviews with potential cooperatives and interaction with the focus groups in selected locations. If any quantitative data is needed prior to starting the assignment, the project can collect the data before the consultant starts the field work, hence providing the quantitative data before the start of the qualitative part.The pre-field work data needs have to be expressed during the inception phase. The Consultant will propose the more detailed research tools in the inception report.

EXPECTED OUTPUTS AND DELIVERABLES

All deliverables submitted to RWSSP-WN shall be in English in electronic form where feasible, or in hardcopy as necessary or required. Deliverables will be considered drafts upon initial receipt. Drafts will be reviewed and comments provided within 2 weeks of receipt, unless otherwise specified. All reports and datasets will be shared with relevant stakeholders, including the District WASH Coordination Committees (D-WASH-CCs), VDC WASH Coordination Committees (V-WASH-CCs) and WUSCs as relevant.

Deliverables include:

i) Inception report with long list of cooperatives, and presentation in the Project Support Unit. The consultant will be provided with all project relevant documents, maps, and previous studies. During the inception phase the consultant may request more materials to be collected by the project, as needed. An inception report with oral presentation include:

- Overall approach &understanding of the assignment; objectives & questions;
- Findings from the first screening of cooperatives with long list of cooperatives;
- Methods for data collection for qualitative data with draft survey instruments, with sampling strategy with proposed time schedule;
- External frame of reference for assessment of cooperative potential from O&M fund & WUSC point of view; and
- Implementation work plan and time table, with proposed district/s and VDC/s for the qualitative study.

ii) FieldReport with list of Cooperatives, WUSCs and VDCs visited, with presentations on preliminary findings at VDC, district and PSU levels. The main findings on whether cooperatives should be recommended and in what kind of circumstances, and how do we know what kind of cooperative to recommend. The main field findings and recommendations for the improvements of present practices should be presented and discussed with the relevant stakeholders. The presentation should be done first in the VDC/s where the field work was carried out (with V-WASH-CC or group of WUSCs that could be interested), the second presentation will be done for the D-WASH-CC (or District Management Committee/District WASH Unit) in the district where the work was carried out, seeking their perspectives and further recommendations. The project staff and district's Support Persons working for RWSSP-WN will participate in these events as far as possible.

- Approach, specific objectives, methods& questions used;
- Findings from interviews with the WUSCs, V-WASH-CCs and cooperatives. For WUSCs and V-WASH-CCs the question should explore to what extent they are familiar with how the cooperatives work and whether in their opinion cooperatives could be an option for WUSC as WUSC, i.e. exploring knowledge, interest, attitudes and previous experiences with cooperatives as possible individual clients; for cooperatives the questions should relate to

what kind of products and services they have available and how the WUSCs and their O&M funds fit into this, i.e. cooperatives interest in having WUSCs as their customers;
- Recommendations whether based on the field findings, cooperative should be proposed, and if yes, what kind of criteria the project and its field staff should use when identifying possible cooperatives before recommending these for WUSC?

iii)Final report in English. The final report will include detailed results from above, presenting the key recommendations on how to go ahead. Recommendations should be clear and actionable. The table of contents of this report will be agreed in the inception phase, so that there is a clear agreement between the consultant and PSU. Table of Contents to be agreed in the inception phase.

- Annex 1. Methodology used (questionnaires, interview formats, data collection formats)
- Annex 2. Long list of cooperatives with their categories*
- Annex 3. Short list of cooperatives with their details**

* "Categories" to be defined during the inception phase. These should help to screen out those cooperatives that do not have the suitable products, may not be financially sound or otherwise safe, or otherwise not suitable for WUSCs as customers.

** Details to be defined during the inception phase.

EXPECTED QUALIFICATIONS

The consultant will be a professional working with rural development with experience in WASH sector and livelihoods, as well as proven background and field experience with multiple-use water systems and thinking.

Both short term consultants will have:

- Relevant University degree in social sciences, economics/financial management, or equivalent;
- Excellent interpersonal and communications skills; physically fit to field;
- Analytical and evaluation skills, experience with participatory research tools and assessments;
- Experience with both rural water supply and their Water Users Committees, and with rural cooperatives and micro-financing.

LEVEL OF EFFORTTIMING OF ASSIGNMENT

The estimated level of effort is 42 days (2 person month) including preparatory work, field visits, training event and presentations, review meetings, report writing and dissemination session. The allocation of time between field and home base (desk study) is determined largely by logistic considerations, but it is expected that at least 75% of the time is allocated for the field.

The assignment should be completed within the Fiscal Year 2071/072.

BASIS OF PAYMENT

The consultant fee will be paid on a daily basis, with time sheets and invoices expected with submission of the deliverables. Expenses will be paid in accordance with the standard practice where by the original bills and boarding passes will be submitted together with the invoice.

COORDINATION

The consultant shall report to the following: Sanna-Leena Rautanen, Chief Technical Adviser, and Narayan Wagle, Planning & Capacity Development Specialist. Also other Project Support Unit experts and the relevant District WASH advisers will be supporting this assignment.RWSSP-WN II Project Support Unit in Pokhara will coordinate the field work and is the first contact point to assist in

Annex 2.1

Focus Group Discussion Guideline WUSCs

SN	Issue	Key questions
1	Operation and Maintenance Fund	• How much of Operation and Maintenance Fund do your UC have at present? • Where is the money at the moment? • Are you earning any interest from your O&M Fund? • Do you have trained VMW/Pump Operator? • Do you pay for VMW/Pump Operator/Meter Reader? How much? • If any major damage in your Scheme, what are your plans to repair them? • O&M has been used for micro-financing or not? If yes how is it operating? • Do we need money in O&M fund? Y/N? Why? • Are you a member of Cooperative? • What services are you taking from cooperative? • What services from cooperative do you expect that will help you to improve the O&M Plan? • Case Study sharing on Sirsha Cooperative and UC's working modality and output • Envisioning exercise
2	Water Tariff	• Do you pay regular water tariff? How much do you pay? • On what basis have you decided to pay NRs….. as water tariff? • Who set your water tariff rate? • Do you have any subsidized rate for ultra poor household? • Do you think the collected rate of water tariff is enough to maintain the service level of your schemes? Y/N? How can we improve? • How have you been utilizing the collected water tariff? • What are your future plans?
3	Capacity Building	• Are you able to utilize the money collected effectively? • Who is responsible for keeping the accounts? • How do you train new member in WUSCs after reshuffle? • Have you received book-keeping/meter reading training? Was it effective? • Do you think there should be an institution that can work as an umbrella organization for WUSCs? Or any other options?

Annex 2.2

Focus Group Discussion Guideline Cooperatives

SN	Issue	Key questions
1	General Information	• Name of Cooperative • Regd. Date & Number • Types of Cooperative • No. of Shareholders • No. of WUSC member as shareholders • Group based/Member based
2	Governance	• Executive Committee composition (EC member consists of UC member) • Statute & Guidelines • Decision making process • Loan lending mechanism
3	Financial Status	• Total share capital • Total saving • Total loan outstanding • Repayment Rate • Rate of Interest • Reserve Fund
4	Management Status	• Do the cooperative have paid staff? • Do they have office? • Services offered by cooperative (Financial/Non-Financial) • Have the EC member, staff (if any) and share holders received any trainings? If yes, what are they? Who facilitated the training? • Are they working with any Community Based Organizations (Saving Group, CUFGs, Mother's Group, WUSCs… etc). If yes, what is their working modality? • Are they operating any user committee accounts in their cooperative? • Affiliated with any Bank or Federation • Future plans of cooperative

Annex 3

Detail Field Visit Itinerary

District	VDC	Date	Time	WUSC/Cooperative	Remarks
Kapilbastu	Mahendrakot	5/6/2015	3:00 PM	Setting schedule for field visit at WSP Training, Mahendrakot	
		6/6/2015	8:00 AM	Tarkeshworna Pattharkot DWS	
			11:00 AM	Amardeep Saving & Credit Cooperative Ltd.	
			2:00 PM	Jyoti Saving & Credit Cooperative Ltd.	
			4:00 PM	Discussion at training regarding O&M, Capital Maintenance Expenditure	
		7/6/2015	8:00 AM	Supa Deurali DWS	
			11:00 AM	Changateni Devi Female Cooperatives	Tara Thapa (Manager)
			2:00 PM	Kapase Phakaiya DWS	
			5:00 PM	Basantapur DWS	
		8/6/2015	10:00	Birpur DWS	
			1:00 PM	Guruganga Agriculture Cooperative	
			5:00 PM	Durga Bhawani DWS	
		9/6/2015	10:00 AM	Tikkar DWS	
			1:00 PM	Meeting with Mr. Hari Adhikari, Chairperson of Guruganga Cooperative	
			2:00 PM	Meeting with SEWA Development Bank, Gorusinghe	
		9/6/2015	4:00 PM	Murgiya DWS	
Tanahu	Barbhanjyang	16/6/2015	11:00 AM	Nabrungdevi DWS-6	
			1:00 PM	Dharapani-7 DWS	
	Barbhajyang/Ghasikuwa	17/6/2015	11:00 AM	Dharapani-3 DWS	
			3:00 PM	Tallodhara pani DWS	
			5:00 AM	Shree Shivalaya Krishi Utpadak Coop. Ltd.	
	Barbhajyang/Ghasikuwa	18/6/2015	10:00 AM	Kamalbari DWS	
			1:00 PM	Discussion at Pump Operator training regarding Maintenance Expenditure	
			4:00 PM	Adharshila Samajik Coop. Ltd	
		19/6/2015	11:00 AM	Bangesimal DWS	
			3:00 PM	Meeting with LDO	
	Sabung Deurali	22/6/2015	3:00 PM	Changadi Siblung DWS	
	Sabung Deurali/Ramjakot	22/6/2015	8:00	Chandrakot DWS, Sabung-7	
			1:00 PM	Shree Laghu Udhyog Sahakari Santha, Sabung-7	
			4:00 PM	Sindure Kholsi DWS	
	Bhirkot	23/6/2015	11:00 AM	Sisara Khola DWS	
			2:00 PM	Gomandi DWS	
	Thaprek	24/6/2015	9:00 AM	Bilaune Khola DWS	
			1:00 PM	Makaimro DWS	
			3:00 PM	Thaprek Sana Kissan Coop. Ltd.	
Kapilbastu	Chandrauta	3-4 July 2015	10:00-4:00 PM	Discussion at O&M Training with 15 WUSCs/Expericne sharing from	
Rupendehi	Kotiyamai	7/5/2015	9:00 AM	Kotiyamai DWS	
	Charange		2:00 PM	Charange DWS	
	Bhairahawa	7/8/2015	10:00-12:00 PM	Discussion at O&M Training	

Annex 4

Detail Findings from Cooperatives

District: Kapilbastu

S.N.	Categories	Checklists	Amardeep Saving & Credit Coop. Ltd.	Jyoti Saving & Credit Coop. Ltd.	Changatini Devi Female Coop. Ltd.	Guruganga Agriculture Coopertive Ltd.
1	General Information	Name of Cooperative	Amardeep Saving & Credit Coop. Ltd.	Jyoti Saving & Credit Coop. Ltd.	Changatini Devi Female Coop. Ltd.	Guruganga Agriculture Coop. Ltd.
		Regd. Number	149/063/064	73/057/058		55/065/066
		Address	Mahendrakot-8, Pattharkot	Mahendrakot-7, Kapilbastu	Mahendrakot-6, Birpur	Mahendrakot-
		Type of Cooperatve	Saving & Credit	Saving and Credit	Multipurpose Cooperative	Agriculture Cooperative
		No. of Shareholders	202	251	764	226
		No. of WUSC member as shareholders				
		Group Based/Member Based	Member based	Member based	Group Based	Member Based
2	Governance	Executive Committee Composition	9 members	7 members	11 members	11 members
		Statute & Guidelines	No Loan Guideline, Administrative Guideline	No Loan Guideline, Administrative Guideline	No Loan Guideline, Administrative Guideline	No Loan Guideline, Administrative Guideline
		Decision Making Process	EC meeting makes decision	EC meeting makes decision	EC meeting makes decision	EC meeting makes decision
		Regular Monthly meeting	No	No	No	No
		Loan Lending Mechanism	No loan committee so EC grants loan decision	No loan committee so EC grants loan decision	No loan committee so EC grants loan decision	No loan committee so EC grants loan decision
3	Financial Status	Total Share Capital (Rs.)	453,700	111,400	119,600	67,600
		Total Saving (Rs.)				
		Total Loan Outstanding (Rs.)	3,132,293	1,799,397		214,000
		Repayment Rate (%)				
		Rate of Interest (%)	9 & 15	10 and 16	9 & 15	9 & 15
		Reserve Fund (Rs.)		1,950		
4	Management Status	No. of Staff	1	1	1	1
		Office	Very good office building	No office	Very good office building	Office building being constructed with self financing of 25 share holders (Rs.50,000 each) which will be reimbrused by PACT Nepal
		Capacity Building of EC members	No training to EC	3 days Book-Keeping training from Division Cooperative Office	Book Keeping Training, business plan training from PACT Nepal	With collaboration of DADO improved seed is being sold out for the members
		Affiliated with Bank	No	Account Operation in Agriculture Dev. Bank and Bhrikuti Dev. Bank	No	
		Affilitation with Federation	Affiliated with District Federation	Affiliated with District Federation	Affiliated with District Federation	Affiliated with District Federation
5	Remarks		Coop. only focusing in Saving & Credit activities	Coop. only focusing in Saving & Credit activities	Operating Dairy Business with the support of PACT Nepal (Rs.1,965,000)	With collaboration of DADO improved seed is being sold out for the members
			Coop. Office is not open daily	No regular operation	Dairy is yet not able to operate its business in profit	Operating Quality Seed Commercialization Sub-Project
			No trained staffs	Books of accounts are not maintained properly	Very weak linkage between Saving Group and Cooperative	Books of account needs to be maintained properly
			50% WUSC members are shareholders	Cooperative was inactive for long years	Group are mobilizing the money not through cooperative	
			Books of accounts are not maintained properly	Cooperative eagar to operate UC account through cooperative	More than 50% users household are the share members of cooperative	

District: Tanahu

S.N.	Categories	Checklists	Shree Shivalaya Krishi Utpadak Coop. Ltd.	Aadharshila Samajik Uddhemi Mahila Sahakari Sanstha Ltd.	Shree Laghu Udhyog Coop. Ltd, Sabung-7	Thaprek Sana Kissan Coop. Ltd. Thaprek
1	General Information	Name of Cooperative	Shree Shivalaya Krishi Utpadak Coop. Ltd.	Aadharshila Samajik Uddhemi Mahila Sahakari Sanstha Ltd.	Shree Laghu Udhyog Coop. Ltd.	Thaprek Sana Kissan Coop. Ltd. Thaprek
		Regd. Number		616-068/069		816/71/72
		Address	Ghasikuwa-8, Tanahu	Ghasikuwa-5, Golla	Sabung-7	Thaprek-5, Tanahu
		Type of Cooperatve	Agriculture Cooperative	Agriculture Enterprise Cooperative	Micro-Enterprise Promotion	Agriculture Cooperative
		No. of Shareholders	57	365	62	385
		No. of WUSC member as shareholders	27			290
		Group Based/Member Based	Member Based	Group Based (20 Group Affiliated)	Member based	Member based (3 Tier)
2	Governance	Executive Committee Composition	7 members	7 members	7 members	7 members (All EC are WUSC member)
		Statute & Guidelines	Statute/No any other guideline	Statute/No any other guideline	Statute/No any other guideline	Statute/No any other guideline
		Decision Making Process	EC meeting decides	EC meeting decides	EC meeting decides	EC meeting decides
		Regular Monthly meeting	No	Yes	No	Yes
		Loan Lending Mechanism	Lending through Farmer Group	loan committee recommends and EC approve the loan	EC meeting decides	loan committee recommends and EC approve the loan
3	Financial Status	Total Share Capital (Rs.)				
		Total Saving (Rs.)		1,761,524	245,702	316,400
		Total Loan Outstanding (Rs.)		3,135,339	417,900	2,408,500
		Repayment Rate (%)				
		Rate of Interest (%)	12 & 18	9 & 14	10 & 16	12 & 18
		Reserve Fund (Rs.)		278,401	66,343	
4	Management Status	No. of Staff	No Staff	1 (5000 salary)	1	2 (Rs.4000 each salary)
		Office	No Office	Office at rental building	Office Building (supported by local NGO for promotion of Dhaka weaving)	Rented Building. Own Cooperative building under construction
		Capacity Building of EC members	No Training	Book-Keeping training & Coop. management training	Limited with Dhaka enterprise only	Coop. management Training and Book-Keeping Training
		Affiliated with Bank	No	No	No	No
		Affilitation with Federation	District Federation	No	No	District Federation
5	Remarks		Cooperative facilited to individual farmer for taking loan from Bank for tractor purchase	Promoted by Heifer International	Transaction limited with Dhaka weaving only	Newly established cooperative. Replicated by other small farmer development cooperative
			No any other activities rather than Saving and Credit	Well managed cooperative	Books of account needs to be managed properly	All transactions are performed within cooperative rules & regulation
			No any books of account maintained properly			Huge potential to incorporate all WUSC member as shareholders
			Cooperative is still in the bag of EC members, no any office set up			WUSC can immediately operate its O&M fund through this cooperative

Annex 5

Findings from WUSCs

District: Rupendehi

S.N.	Categories	Checklists	Kotiyamai DWS (Electric Lift), Rupendehi	Charange Bhumigat DWS (Electric Lift)	Manakamana DWS (Electric Lift), Murgiya
1	Operation and Maintenance Fund	Total amount of O&M Fund	56,058.86	1,900,000.00	134,000.00
		O&M Account	Agriculture Development Bank	Rastriya Banijya Bank	Bhrikuti Development Bank
		Rate of Interst earned	3%	0%	6%
		No. of Staffs	2	3	1
		VMW/Pump Operator/Meter Reader	Plumber & Office Assitant	Office Asst., Plumber, Operator	Office Assistant
		Monthly Salary for VMW/Pump Operator/Meter Reader	Rs.3000(OA), Rs.300/Tap installation (Plumber)	26,000	3,500
		Electricity Expenses	7,500	15,000	10,000
		Total montly revenue generated at present	7,500	70,000	25,000
2	Water Tariff	Water Tariff Rate	Rs.80(min.-10 unit), Rs.10/unit	Rs.100/10 unit(min.), Rs.12/unit	Rs.10/unit
		Subsidized rate for ultrapoor household	No	No Charge for Community School	No
		Utilization of revenue	Operation Cost (Deficit)	Operation Cost & Deposit to bank	Operation Cost & Deposit to Bank
		Challenges with water tariff collection	31% HH is only taking service	No Challenge	No regular payment of water tariff
3	Capacity Building & Governance	EC resuffled	No (AGM planned for Aug. 2015)	No	Yes
		Training for new members			No
		Training for operators	Yes	Yes	Yes
		Trained VMW	Yes	Yes	No (left abroad)
		Public Auditing	Yes	Yes	Yes
		Regular UC Meeting	Yes	Yes	Yes
		Need of Cooperative	Yes	Yes	Yes
4	Current Issues with Schemes		Connection charge for each household with kind contribution is Rs.4000 (almost all household have paid Rs.1000 but need to pay Rs.3000 to get connected)	Needs capacity building for developing business plan for commercial use of water (Expansion to other cluster, Packaging of Water)	
			Connection charge for new household without kind contribution is 13000	High potential for cooperative development	
			Book keeping well maintained	Needs additional training on book-keeping and record keeping	

Annex 5

Findings from WUSCs

District: Kapilbastu

S.N.	Categories	Checklists	Tarkeshworna Pattarkot DWS	Supa Deurali DWS	Kapase Phakaiya DWS	Basantapur DWS	Birpur DWS	Durga Bhawani DWS	Tikkar DWS
1	Operation and Maintenance Fund	Total amount of O&M Fund	143,578.38	239,157.00	69,500.00	143,000.00	400,000.00	5,000.00	156,400.00
		O&M Account	Sewa Development Bank	Sewa Development Bank	Sewa Development Bank	Sewa Development Bank (5000 in NBB)	Sewa Development Bank (10,000 in NBB)	Sewa Development Bank (11000 in NBB)	Sewa Development Bank (5,000 in NBB)
		Rate of Interst earned	6%	6%	6%	6%	6%	6%	6%
		No. of Staffs	3	2	1	1	2	1	1
		VMW/Pump Operator/Meter Reader	1 Meter Reader, 1 VMW, 1 VMW (upper source)	Meter Reader & VMW	VMW/Meter Reader	Meter Reader	Plumber and Meter Reade	Meter Reader	Meter Reader
		Monthly Salary for VMW/Pump Operator/Meter Reader	10,000	(3500+1000)	6,000	5,000	7,500	5,000	5,000
		Electricity Expenses	8,000	2,000	2,000	4,800	12,000	3,000	3,000
		Total montly revenue generated at present	18,000	5,000	7,000	4,800	25,000	5,500	4,500
2	Water Tariff	Water Tariff Rate	Rs.100/tap (minimum)	Rs.100/HH (Private) Rs.40/HH (Public Tap)	Rs.50/HH (Private/Public)	Rs.200/HH(Private) Rs. 100/Tap (Public)	Rs.15/unit (Public) Rs.30/unit (Public)	Rs.100/HH (Private) Rs.20/HH (Public)	Rs.100/HH (Private, 15/per unit) Rs.20/HH (Public)
		Subsidized rate for ultrapoor household	Yes (No charge from public Tap)	No	No	No	No	No	No charge for ultrapoor household
		Utilization of revenue	Operation Cost	Operation Cost (Deficit)	Operation Cost (Deficit)	Operation Cost (Deficit)	Operation & Maintenance Cost	Operation Cost (Deficit)	Operation Cost (Deficit)
		Challenges with water tariff collection	Due to less supply of water people are reluctant to pay	40% tariff is collected	50% tariff collected	People use Tube well supported by FINIDA for drinking water purpose. Only 10% of HH use tap water	People readily pay water	No tariff collection at	No water in tap since 4 months so no water tariff
3	ty Building & Gove	EC resuffled	No	No	No	Yes	Yes	No	No
		Training for new members				No	No		
		Training for operators	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Trained VMW	Yes	No (Left Abroad)	Yes	No (Trained person not working)	Yes	No (Not working due to less salary)	No
		Public Auditing	Yes	No	No	Yes	Yes	No	No
		Regular UC Meeting	No	No	No	No	Yes	No	No
		Need of Cooperative	Yes	Yes	Yes	Yes	Yes	Yes	Yes
			• Water supply not able to fulfill the demand	• Operation cost deficit	• Lack of social mobilization resulting people using Tube Well instead of Tap Water	• High cost of electricity	• Sudden raise in electricity expenses	• Huge accident damaged the water tank	• Needs Refresher Book-Keeping Training
			• Additional source from stream(without water quality testing) added to Overhead Tank	• Chairperson keeping all records of book-keeping	• No proper book-keeping	• Less users	• 110 additional application for new tap	• No regular water tariff collection	• Both trained VMW left abroad

4	**Current Issues with Schemes**		• Load shedding	• No AGM/Public Auditing	• Low tariff rate	• Less revenue generated	• High demand low supply	• No Public Auditing	• No water source during dry season (4 months)
			• Community Forest ready to invest for solar set but UC not able to facilitate the procurement process	• Users not willing to pay water tariff instead happy to use Tube Well water from Lumbini Project	• People not paying water tariff readily	• Political influence	• Load shedding/ Alternative Energy (Solar) needed	• Interruption in water supply	• Pump needed for water lifting
			• User are demanding more water supply and willing to pay for it	• No representatives from Tharu community in Executive Committee (WUSC)		• Less inclusive Executive Committee (Tharu representation)	• Insufficient capacity of water tank		• NRs.60,000 has been collected for purchasing Water Pump
			• UC ready to take loan (not 100%) from financial institution for expansion of water supply	• Social gap between Tharu and Hill Community with regards to drinking water. Tharu community not connected with tap water		Social Inclusion Issue (No Tharu representation in WUSC)	• Capacity building training for UC needed including book-keeping training		• Application for need of Water Pump has been submitted to Municipality
									• Motor Quail has been replaced in cost of NRs.19600

Annex 5

Findings from WUSCs

District: Kapilbastu Training

S.N.	Categories	Checklists	Tutahatpur DWS (Solar/Electric Lift), Shivagadi (1,2,7)	Manakamana DWS (Electric Lift)	Saibaba DWS (Electric Lift)	Chamarbujiya DWS (Electric, Solar Lift), Shivagadi VDC (2,5)	Naraindiawa (Solar Lift) Shivagadi VDC 8,3	Madhwanagar DWS (Electric Lift), Gugauli 8	Durgadevi DWS (electric Lift), Kopawa VDC	Jababairath DWS (Solar Lift), Gogauli 1
1	Operation and Maintenance Fund	Total amount of O&M Fund	600,000.00	500,000.00	5,000.00	500,000.00	125,000.00	10,000.00	235,000.00	70,000.00
		O&M Account	Bhrikuti Bikas Bank	Nepal Bank Ltd.	Nepal Bank Ltd.	Bhrikuti Bikas Bank	Bhrikuti Bikas Bank	Bhrikuti Bikas Bank	Bhrikuti Bikash Bank	Nepal Banijya Bank
		Rate of Interst earned	6%	0%	0%		0%	0%(190000-Micro Financing 24%)	0%	0%
		No. of Staffs	2	2	1	2	2	1	2	2
		VMW/Pump Operator/Meter Reader	1 Meter Reader, VMW 1	Meter Reader & VMW	VMW/Meter Reader	VMW/Meter Reader		VMW		VMW
		Monthly Salary for VMW/Pump Operator/Meter Reader	9,000	6,000	4,000	6,000	6,000	700	6,000	4,000
		Electricity Expenses	2,500	50,000	4,000	1,200	-	500	2,200	-
		Total montly revenue generated at present	17,000	No water supply so no water tariff	10,000	8,000	8,000	2,000	18,600	3,000
2	Water Tariff	Water Tariff Rate	Rs.100/tap (minimum10 units, 12/unit) all private tap	Rs.100/HH (Private)	Rs.8.4/unit (Private/Public)	Rs. 80/10 unit (Rs.12/unit)	Rs. 80/10 unit (Rs.10/unit)	Rs.60/Tap-6 units (Rs.10/Unit)	Rs.100/Tap-8 units (Rs.20/Unit)	Rs.60/Tap-Public Tap
		Subsidized rate for ultrapoor household	No	No	No	No	No	No	No	No
		Utilization of revenue	Operation Cost	Operation Cost (Deficit)	Operation Cost (Deficit)	Operation Cost	(35000, Cash in hand with Operator)	Operation Cost	Operation Cost (Remaining deposit in bank)	Operation Cost (Deficit)
		Challenges with water tariff collection	Readily paying tariff	No water supply so no water tariff	No water tariff since 3 months	Readily paying tariff	60% pay water	Readily paying tariff	Readil pay water tariff	50 % HH not paying water tariff
3	ity Building & Gover	EC resuffled	No	No	Yes	Yes	No	No	No	No
		Training for new members			No	No				
		Training for operators	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
		Trained VMW	Yes	Yes	Yes	Yes	Yes	No (Abroad)	Yes	Yes
		Public Auditing	Yes	No	Yes	Yes	No	Yes	Yes	No
		Regular UC Meeting	No	No	No	No	No	No	No	No
		Need of Cooperative	Yes	Yes	Yes	Yes		Yes		Yes
4	Current Issues with Schemes		• Book keeping training needed to VMW	· Pump damaged even after repair (35000 for repair and maintenance, 75000 for new pump, damaged in 10 days)	· Pump damaged even after repair (135000 for repair and maintenance still not working)	Quality of wter		Good management	Pipeline likage	
			• Demand is high than supply. Enough source of water but tanky is insufficient	No water at present	New motor needed	No clean water			Gate valve needed	
						No wnough water at source				
						Damange in solar panel (Company repaired as per warranty agreement)				

Annex 5

Findings from WUSCs

District:Tanahu

S.N.	Categories	Checklists	Nabrungdevi DWS (Electric Lift)	Dharapani-7 DWS (Electric Lift)	Dharapani-3 DWS (Electric Lift)	Tallo Dharapani DWS (Gravity Flow)	Kamalbari DWS (Gravity Flow)	Bangesimal DWS (Gravity Scheme)	Changadi Siblung DWS (Gravity Flow)	Sadul Chisapani DWS, Bamjakot	Chandrakot DWS, Sabung-7 (Soar Lift)	Sindure Kholsi DWS, Bhirkot (Gravity Flow)	Sisara Khola DWS, Bhirkot (Solar Lift)	Gomandi DWS (Gravity Flow)	Bilaune Khola DWS (Electric Lift)	Makaimro DWS (Electric Lift)
1	Operation and Maintenance Fund	Total amount of O&M Fund	5,000.00	6,500.00	55,000.00	30,000.00	42,000.00	15,000.00	12,000.00	5,000.00	5,000.00	5,000.00	325,000.00	20,000.00	90,089.00	6,500,000.00
			Unknown	55,000.00	-		-				1,500.00				15,882.00	5,000.00
		O&M Account	Nepal Bank Ltd.	Nepal Bank Ltd.	Nepal Bank Ltd.	Nepal Bank Ltd.	Nepal Bank Ltd.	Nepal Bank Ltd.	Nepal Bank Ltd.		Nepal Bank Ltd	Krishi Bikas Bank	Nepal Bank	Sunrise Bank	Machhapuchre Bank	Gandaki Bikas Bank
			Lumbini Banl Ltd.	Lumbini Bank Ltd.	-						Bank				Nepal Bank	Nepal Bank
		Rate of Interst earned	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0%	0%		4%
			6%	6%	-										0	0
		Micro-Financing by WUSCs	-	-	20,000.00	60,000.00						55,000.00				
		Rate of Interest Earned	-	-	24%	18%						24%				
		No. of Staffs	2	1	1	1	1	1	1	1	1	0	1	1	3	3
		VMW/Pump Operator/Meter Reader	VMW, Operator	Operator	Operator	VMW	VMW	VMW	VMW	VMW	Operator	VMW	Operator	VMW	VMW	VMW
		Monthly Salary for VMW/Pump Operator/Meter Reader	8,000	4,000	5,000	3000	0	1500	3500	5500	1,600	0	3,500	1,200	12,000	17000
		Electricity Expenses	8,000	2,500	2,500	0	0		0	0	0	0				22000
		Total montly revenue generated at present	12,000	6,600	7,500	4000	1500	1500	5000	No accurate records found	3,800	No records found	4,500	No record found	15,000	31000
2	Water Tariff	Water Tariff Rate	Rs.200/HH	Rs.200/HH	Rs.150/HH	Rs.30/HH		Rs.50/HH	Rs.100/HH	Rs.50/HH	Rs.50/HH	Rs.30/HH (Ward no.5, 30 HH) Ward No. 8, 23 HH not paying	Rs.50/HH	Rs.50/HH	Rs.160/HH	Rs.200/HH
		Subsidized rate for ultrapoor household	No	No	No	No	No	Yes	No	N0	No	No	No	No	Yes (Rs.80 for 11HH)	Yes (15HH)
		Utilization of revenue	Operation Cost (Deficit)	Operation Cost (Deficit)	Operation Cost	Operation Cost	Operation Cost		Operation Cost	Operation Cost	Operation Cost	No proper records	Operation Cost	No proper records	Operation Cost	Operation Cost
		Challenges with water tariff collection	Not able to collect from all Household	Users feel the tariff is very high	Not able to collect from all household	User feels water is a social goods	Enough water at source so why to pay water tariff	Landless community not willing to pay water tariff	50 HH of Ward No. 1 is paying water tariff but Ward No.9 is not paying	People are reluctant to pay water tariff	People readily pay water tariff	Conflict on paying tariff	No issue	50% HH are only paying	People are reluctant to pay water tariff	No issue
3	Capacity Building	EC resuffled	Yes	No	No	No	Yes	Yes	No	No	No	No (only treasurer changed)	No	No	Yes	No
		Training for new members	No	-			No	No				No			No	
		Training for operators	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (2 were trained)	No	No	Yes	Yes
		Trained VMW	No (Migration)	Yes	No (Migration)	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes
		Public Auditing	No record found	Yes	No record found	Yes	Yes	No record found	No	Yes	Yes	No	No	No	No	Yes
		Need of Cooperative	Yes	Yes	Yes	Already have Shree Shivalaya Krishi Utpadak Coop.	Yes	yes	Yes	Yes (No cooperative at VDC yet)	Yes (Heifer Int. promoted cooperative exist in VDC)	Yes	Yes (high potential)		Yes	Already Thaprek Sana Kissan Sahakari is covering almost 60% users as a Shareholder

4	**Current Issues with Schemes**	Old WUSCs have not handed over financial clearance to new WUSC	O&M fund not mobilized	Water pump damaged and replaced costing NRs.103,000 (Payment Due)	Rs.60,000 cash micro-financing among the users but no books of account available during meeting	Rs.50,000 given to AAMA Samuha without any interest	Overlap of DWS schemes. Estimated HH 150, User HH=53	No equal distribution in all taps due to some technical issue.	No O&M fund	Total expenses of schemes exceeds estimated cost. Due to which all O&M fund used for completing the scheme	No records at all of book-keeping. Chairperson is not able to answer the whereabout of all book-keeping.	VMW is not able to maintain the books of account. Treasurer is keeping the record	No O&M fund generated	Overlapping of schemes	Heavy electricity price hike. Rs.12,000/month before 3 months, now its Rs.22,000/month
		New UC unknown about the Bank Account balance in Lumbini Bank	Books of account not available	O&M fund locally mobilized but no record found	Repair and maintenance of taps is being done from O&M fund	Rs.2/1000 litres as a water tariff	VMW participants selected from non-user HH	HH from Ward No. 1 only paying water tariff	No sufficient water tariff collection		Rs.50,000 invested as micro-financing with no further record since 2070 BS	Before DWS people used to pay Rs.30/bucket. Now people are reluctant to pay Rs.50/month	Training to VMW needed immediately	Initial O&M fund still needs to be collected	70% UC member of cooperative. Huge potential with working through cooperative
		New UC is managing to collect water tariff	Final installment needs to be released from VDC	Lack of knowledge on book-keeping of micro-financing		No salary to VMW	WUSC from non-user HH	No Transperant books of account. Chairperson reluctant to participate in any meeting	VMW is responsible to collect water tariff, whatever is collected is salary for VMW		2 VMW were trained but none of them are working. No VMW at present	No major repairs. Operating smoothly	Very eagar to start a financial institution	Books of account needs to maintained properly	
		Huge repair & maintenance cost but UC unknown about the cost	Needs additonal book-keeping training for effective managmeent			LIME/CHUNA issue in water is creating blockage in pipeline	Landless community not willing to pay water tariff		Overlap of schemes resulting less tariff collection		Ward No.5 (28 HH)is collecting water tariff Rs.50. Ward no.8 (23HH) not collecting tariff			New WUSC needs UC management training	
		Water pump damaged				Meter Reader is not paying water tariff for providing service					Lack of maintenance causes no regular water in tap				
		25% fine being paid for due electricity bills													

Annex 6

Operation and Maintenance Expenses Detail

S.N.	Type of Scheme	District	Name of Scheme	Water Tariff	Total Revenue (Rs.)	Operation Expenses (Salary + Electricity Cost) Rs.	Profit/Loss (Rs.)
A	Electric Lift	Rupendehi	Kotiyamai DWS	Rs.80/10 units(min.) Rs.10/unit	7,500	10,500	(3,000)
			Charange DWS	Rs.100/10 units(min.) Rs.12/unit	70,000	41,000	29,000
			Manakamana DWS	Rs.10/unit	25,000	13,500	11,500
		Kapilbastu	Tarkeshworna DWS	Rs.100/tap	18,000	18,000	-
			Supa Deurali	Rs.100/tap(Private) Rs.40/HH (Public)	5,000	6,500	(1,500)
			Kapase Phakaiya	Rs.50/HH	7,000	8,000	(1,000)
			Basantapur	Rs.200/HH(Private) Rs.100/HH (Public)	4,800	9,800	(5,000)
			Birpur	Rs. 15/unit (Public) Rs.30/unit (Private)	25,000	17,500	7,500
			Durga Bhawani	Rs.100/HH(Private) Rs.20/HH (Public)	5,500	8,000	(2,500)
			Tikkar	Rs.100/HH+Rs. 15/unit Rs210/unit(Public)	4,500	8,000	(3,500)
			Saibaba	Rs.8.4/unit	10,000	8,000	2,000
			Manakamana DWS	Rs.100/HH	-	11,000	(11,000)
			Madhwanagar	Rs.60/tap upto 6 units Rs.10/unit	2,000	1,200	800
			Durgadevi	Rs.100/tap upto 8 units Rs.20/unit	18,600	8,200	10,400
		Tanahu	Nabrungdevi	Rs.200/HH	12,000	16,000	(4,000)
			Dharapani-7	Rs.200/HH	6,600	6,500	100
			Dharapani-3	Rs.150/HH	7,500	7,500	-
			Bilaune Khola	Rs.160/HH	15,000	12,000	3,000
			Makaimro	Rs.200/HH	31,000	39,000	(8,000)
B	Solar Lift	Kapilbastu	Narandihawa	Rs.80/10 units(min.) Rs.10/unit	8,000	6,000	2,000
			Jababhairab	Rs.60/tap	3,000	4,000	(1,000)
		Tanahu	Chandrakot	Rs.50/HH	3,800	1,600	2,200
			Sisarakhola	Rs.50/HH	4,500	3,500	1,000
			Tallo Dharapani	Rs.30/HH	4,000	3,000	1,000
			Kamalbari	Rs.2/unit	1,500		1,500

C	Gravity Flow	Tanahu	Bangesimal	Rs.50/HH	1,500	1,500	-
			Changadi Siblung	Rs.100/HH	5,000	3,500	1,500
			Saudi Chisapani	Rs.50/HH	-	5,500	(5,500)
			Sindure Kholsi	Rs.30/HH		-	-
			Gomandi DWS	Rs.50/HH	-	1,500	(1,500)
D	Solar & Electric Lift	Kapilbastu	Turantapur	Rs.100/10 units(min.) Rs.12/unit	17,000	11,500	5,500
			Chamarbhanjyang	Rs.80/10 units (Rs.10/unit)	8,000	7,200	800
							-